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# Discovering Energy Metals To Power the Future



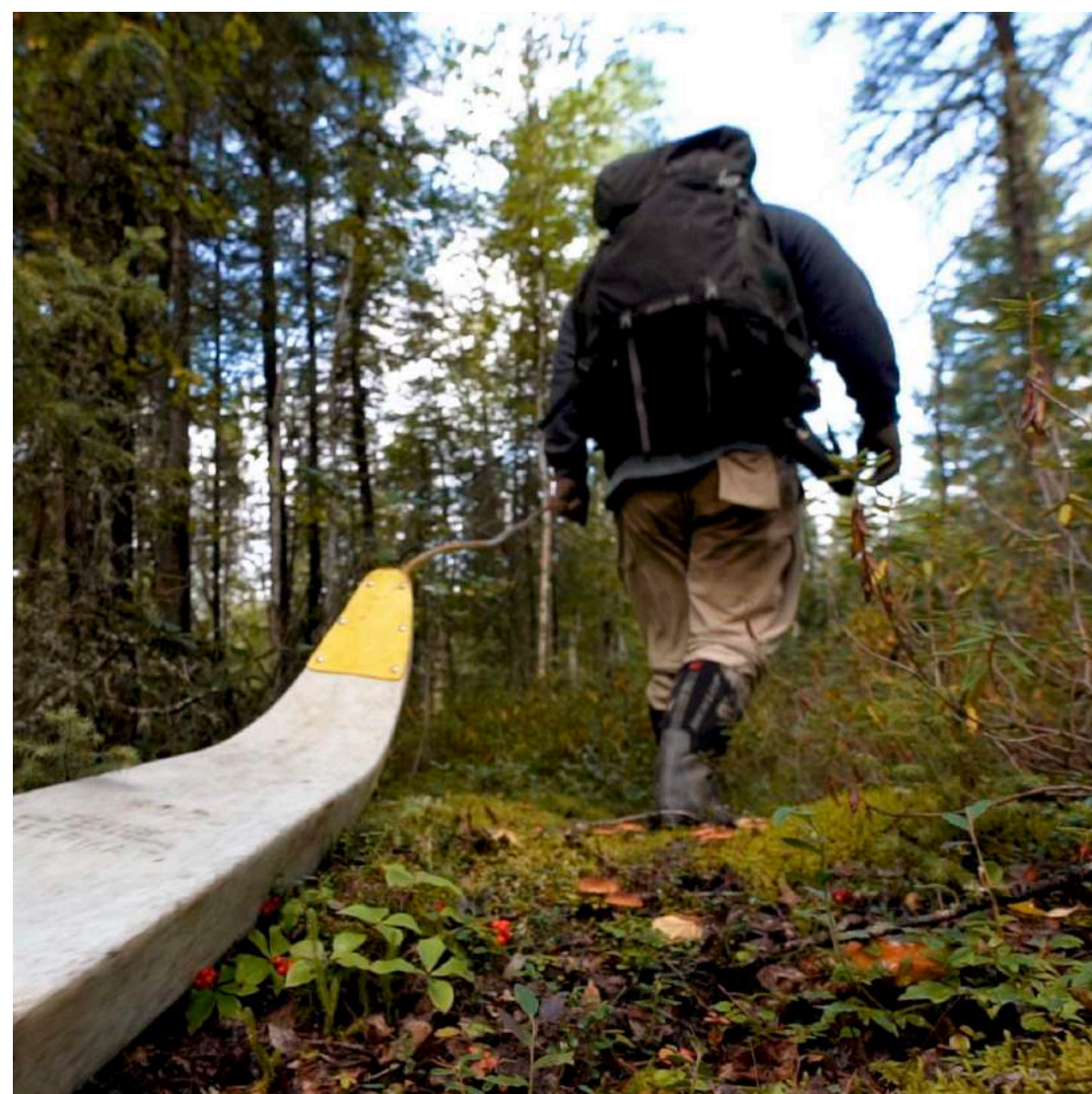
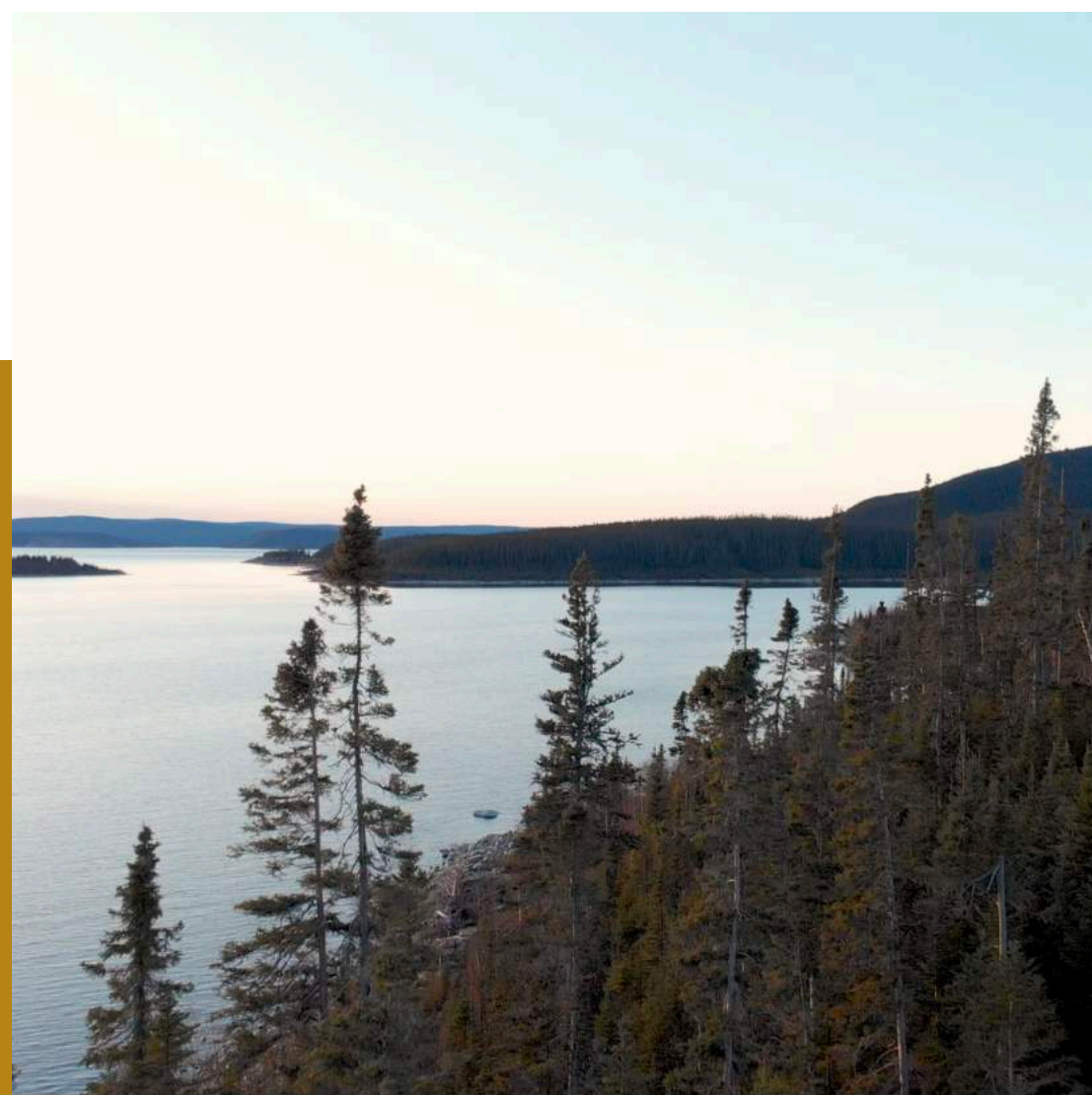
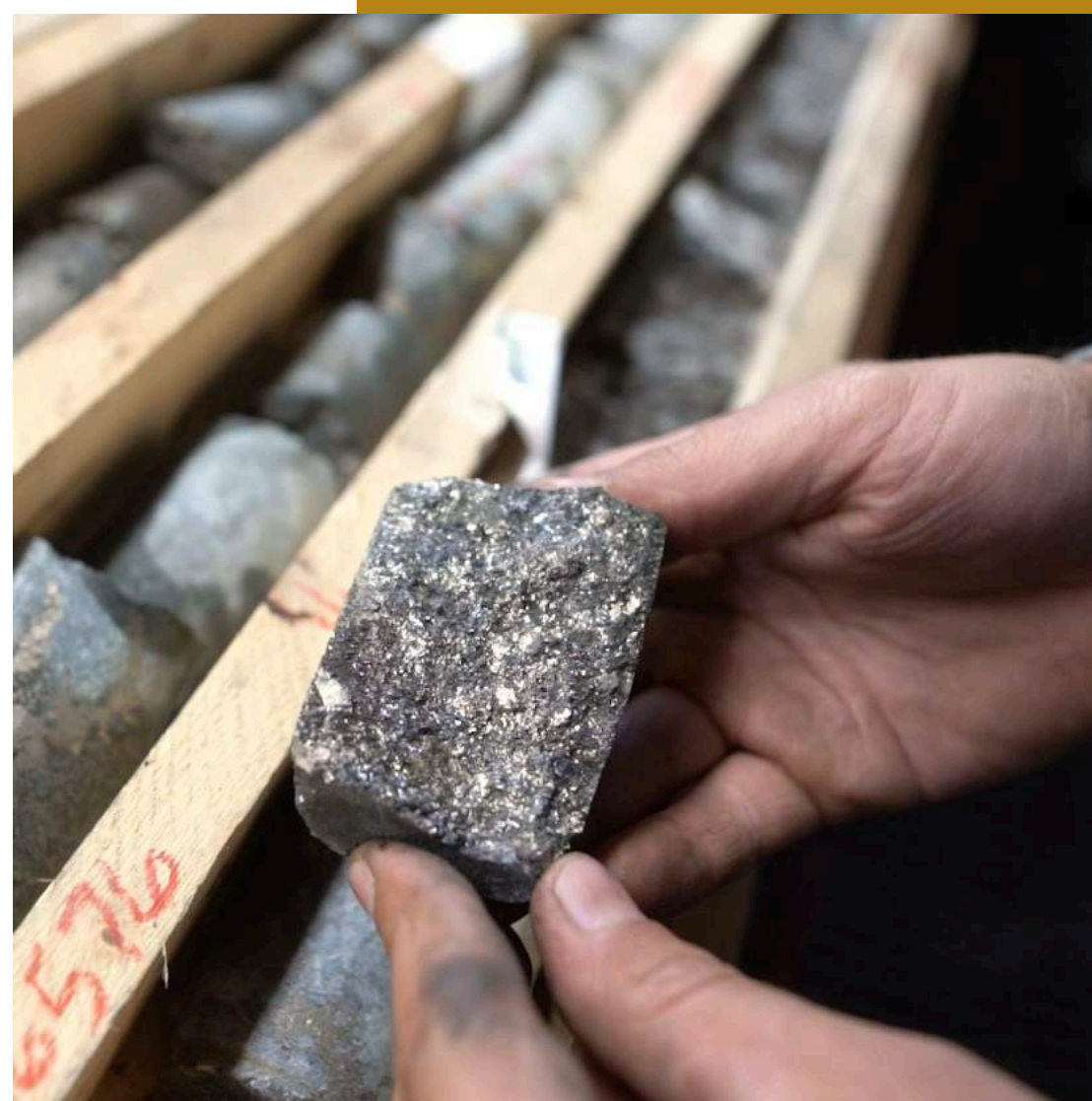
The statements, maps and models in this presentation are based on information currently available to Murchison Minerals Ltd. (the “Company”) and the Company provides no assurance that actual results will meet management's expectations. In certain cases, forward-looking information may be identified by such terms as "anticipates", "believes", "could", "estimates", "expects", "may", “potential”, "shall", "will” or "would". Forward-looking information contained in this presentation is based on certain factors and assumptions regarding, among other things, the estimation of mineral resources and mineral reserves, the realization of resource estimates and reserve estimates, metal prices, the timing and amount of future exploration and development expenditures, the estimation of initial and sustaining capital requirements, the estimation of labour and operating costs, the availability of necessary financing and materials to continue to explore and develop the Company’s project in the short and long-term, the progress of exploration and development activities, the receipt of necessary regulatory approvals, the completion of the environmental assessment process and assumptions with respect to currency fluctuations, environmental risks, title disputes or claims and other similar matters. While the Company considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect.

#### Qualified Persons

The technical information contained in this presentation has been reviewed and approved by John Shmyr, P. Geo., Murchison’s VP Exploration, a Qualified Person in accordance with National Instrument NI-43-101.

Forward looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include risks inherent in the exploration and development of mineral deposits, including risks relating to changes in project parameters as plans continue to be redefined including the possibility that mining operations may not commence at the Company’s project risks relating to variations in mineral resources, mineral reserves, grade or recovery rates resulting from current exploration and development activities, risks relating to changes in metal prices and the worldwide demand for and supply of base and precious metals, risks related to increased competition in the mining industry generally, risks related to current global financial conditions, uncertainties inherent in the estimation of mineral resources and mineral reserves, access and supply risks, reliance on key personnel, operational risks inherent in the conduct of mining activities, including the risk of accidents, labour disputes, increases in capital and operating costs and the risk of delays or increased costs that might be encountered during the development process, regulatory risks, including risks relating to the acquisition of the necessary licenses and permits, financing, capitalization and liquidity risks, including the risk that the financing necessary to fund the exploration and development activities at the Company’s project may not be available on satisfactory terms, or at all, risks related to disputes concerning property titles and interest, and environmental risks. The Company does not undertake to update any forward-looking information that may be made from time to time by the Company or on its behalf, except in accordance with applicable securities laws.





To meet the rapidly expanding demand for energy metals, commitment, and expedited investment in exploration, mine development, and production is essential. We must look at stable jurisdictions for our future supply.

Junior mining companies such as Murchison Minerals play a significant role in the discovery of metals needed for the quickly evolving clean energy revolution. Nickel, Copper, Cobalt and Zinc



# OUR APPROACH

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## OUR PROCESS

- Discovery of energy metals in underexplored areas with camp scale potential – within the best mining jurisdictions in the world.
- Establishing a dominant land position.
- Systematically testing targets with the latest technologies, with an eye to advancing projects in the most efficient and cost-effective manner.

## OUR PROJECTS

- BMK (Brabant-McKenzie) VMS Zn-Cu-Ag Project in Saskatchewan
- HPM (Haut-Plateau de la Manicouagan) Ni-Cu-Co project in Quebec

## OUR PEOPLE

- Highly experienced board with the likes of JC Potvin and Don Johnson.
- Strong shareholder base, with the likes of Michael Gentile. Insiders and strategic investors holding approximately 50% of outstanding shares.
- Solid management team with Troy Boisjoli as CEO-President and John Shmyr VP of Exploration, supported by SME Dr. Peter Lightfoot on HPM and Dr. Stephen J. Piercy on BMK.



# Murchison Overview

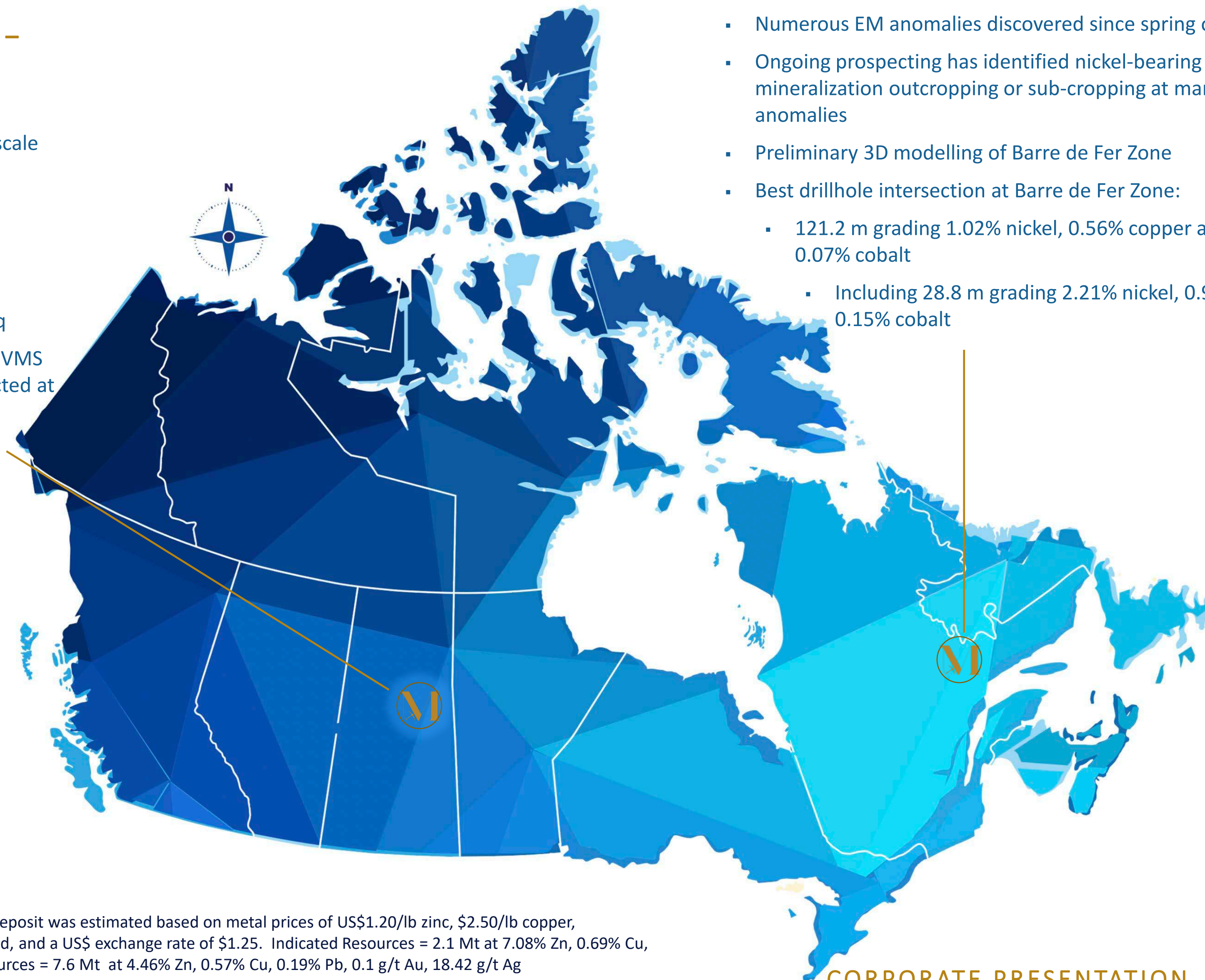
## Share Structure as of December 4, 2023

Common Shares	241,096,522
Stock Options	20,785,000
Warrants	36,769,556
Fully Diluted	298,651,078
Insider and Strategic Investors	~50% O/S
Current Share Price CAD	\$0.04
Market Capitalization (Partially Diluted) CAD	\$9,644,000
VWAP (30 Day)	\$0.04
52 Week High CAD	\$0.16
52 Week Low CAD	\$0.03



### Brabant-McKenzie VMS Deposit – Saskatchewan

- 100% owned
- Dominant land position with camp scale VMS potential
- Year-round road and power access
- Resource <sup>(1)</sup>
  - Inferred: 7.6 Mt @ 6.29% ZnEq
  - Indicated: 2.1 Mt @ 9.98% ZnEq
- 10 highly prospective VMS targets - VMS style mineralization already intersected at Main Lake and Betty target areas



### HPM Ni-Cu-Co Project - Quebec

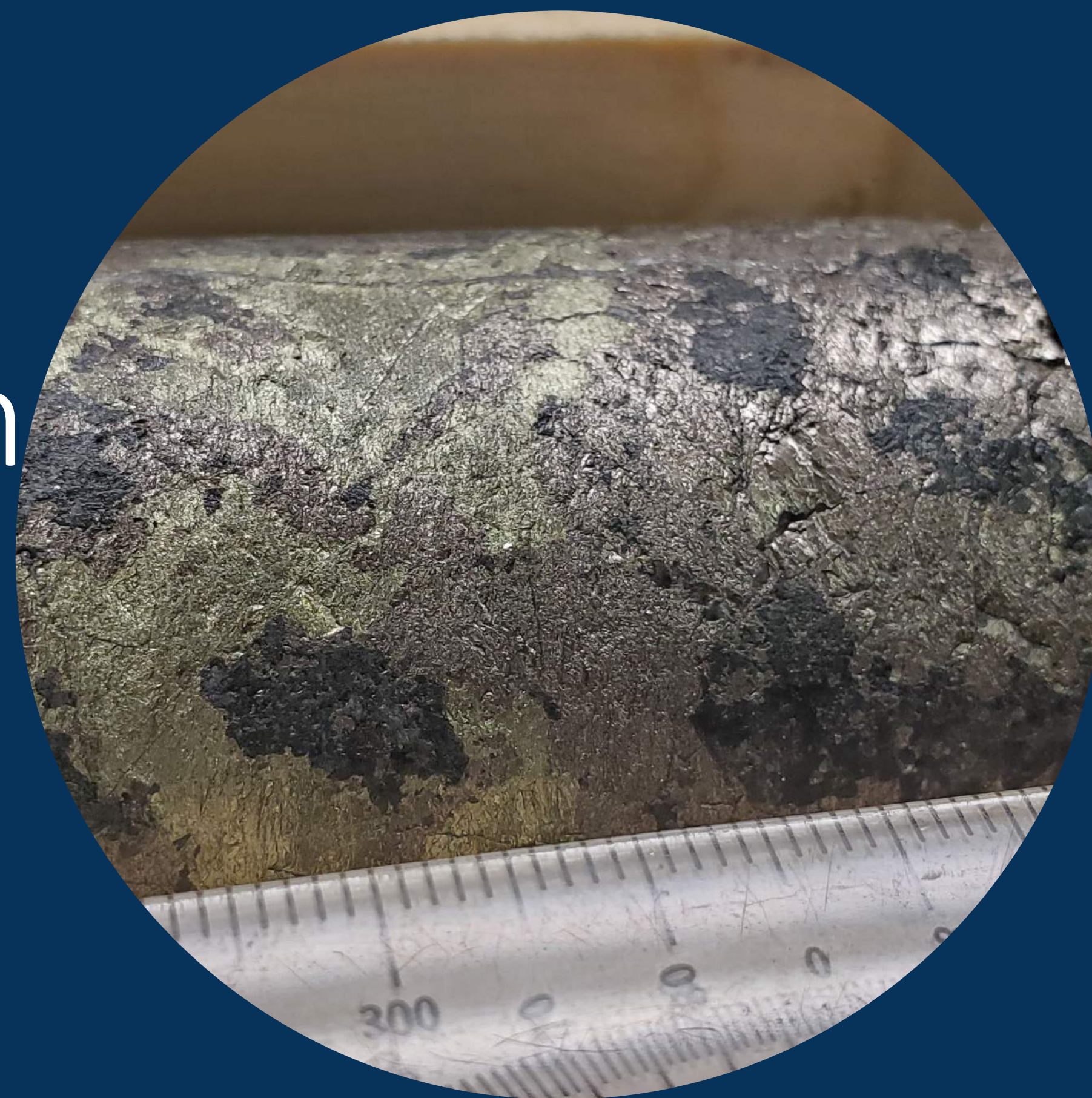
- 100% owned since 2019
- Comprising ~950 km<sup>2</sup> of continuous mineral claims
- Dominant land position with camp scale Ni-Cu-Co potential
- Rail access within 8 km of project area, ~225 km to Port of Sept Iles
- Numerous EM anomalies discovered since spring of 2021
- Ongoing prospecting has identified nickel-bearing sulphide mineralization outcropping or sub-cropping at many of the EM anomalies
- Preliminary 3D modelling of Barre de Fer Zone
- Best drillhole intersection at Barre de Fer Zone:
  - 121.2 m grading 1.02% nickel, 0.56% copper and 0.07% cobalt
  - Including 28.8 m grading 2.21% nickel, 0.99% copper, and 0.15% cobalt

(1) The resource for the Brabant-McKenzie zinc deposit was estimated based on metal prices of US\$1.20/lb zinc, \$2.50/lb copper, \$1.00/lb lead, \$16.00/oz silver and \$1200/oz/gold, and a US\$ exchange rate of \$1.25. Indicated Resources = 2.1 Mt at 7.08% Zn, 0.69% Cu, 0.49% Pb, 0.23 g/t Au, 39.6 g/t Ag. Inferred Resources = 7.6 Mt at 4.46% Zn, 0.57% Cu, 0.19% Pb, 0.1 g/t Au, 18.42 g/t Ag

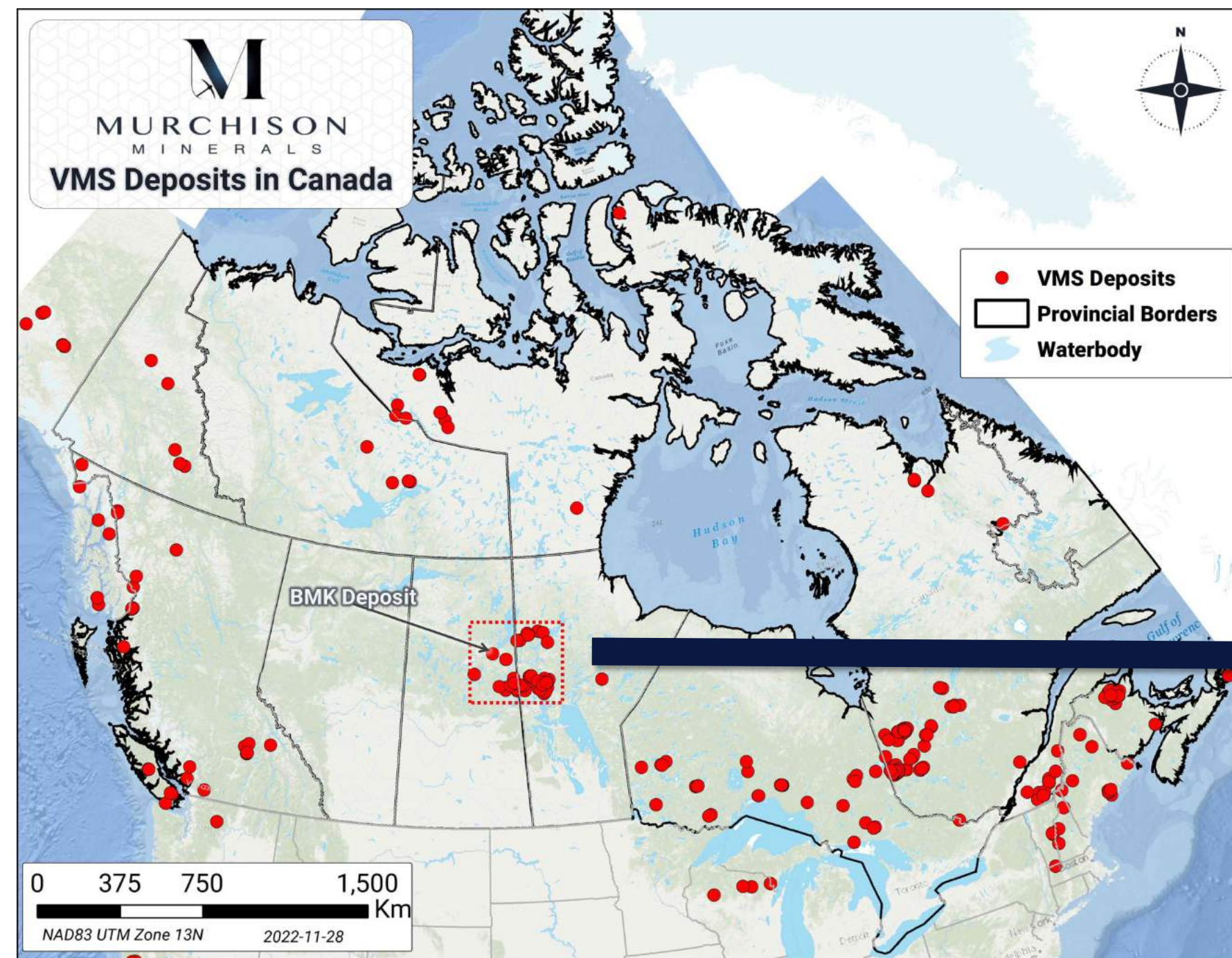


# BMK | Saskatchewan

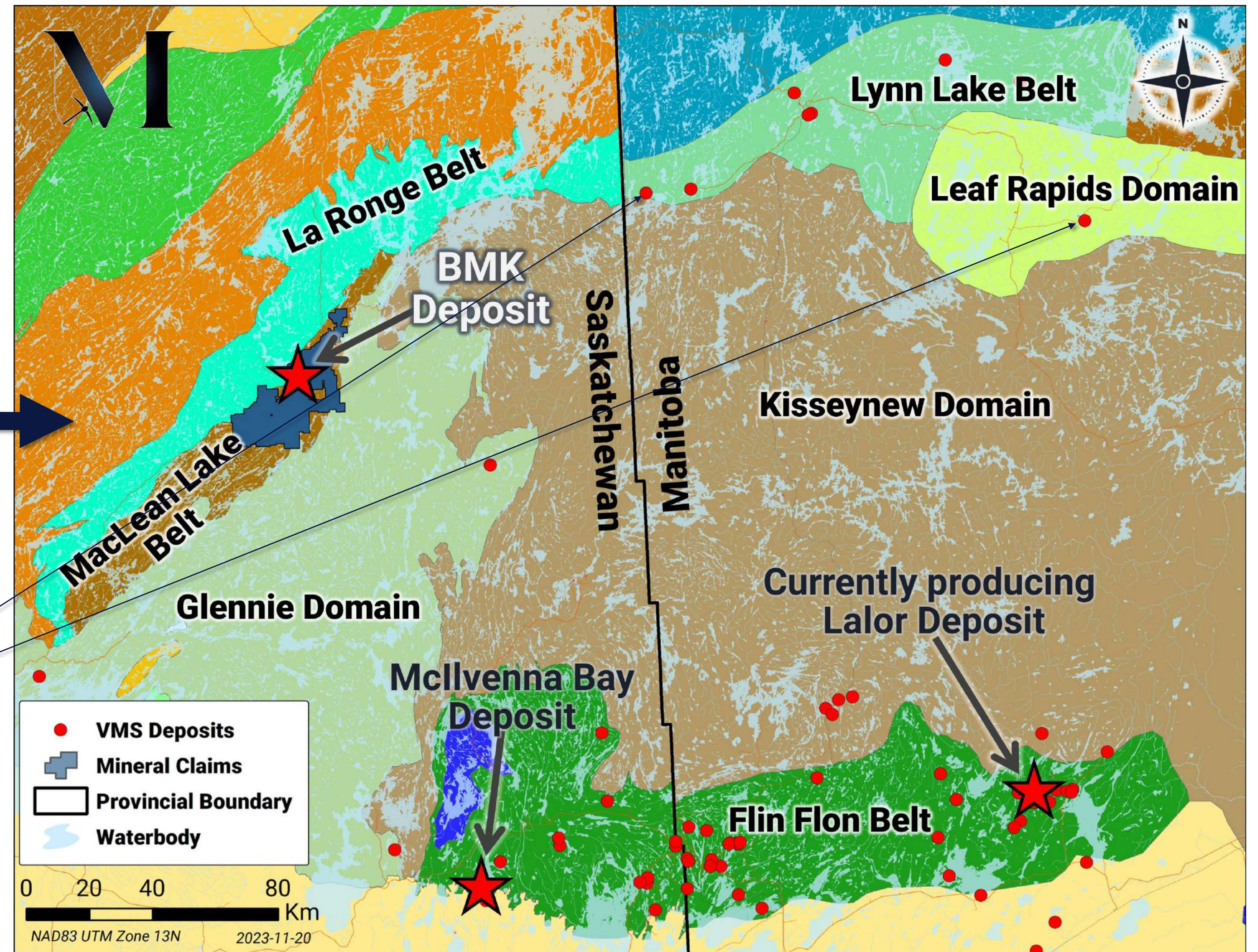
## Zn-Cu-Ag-Au Project







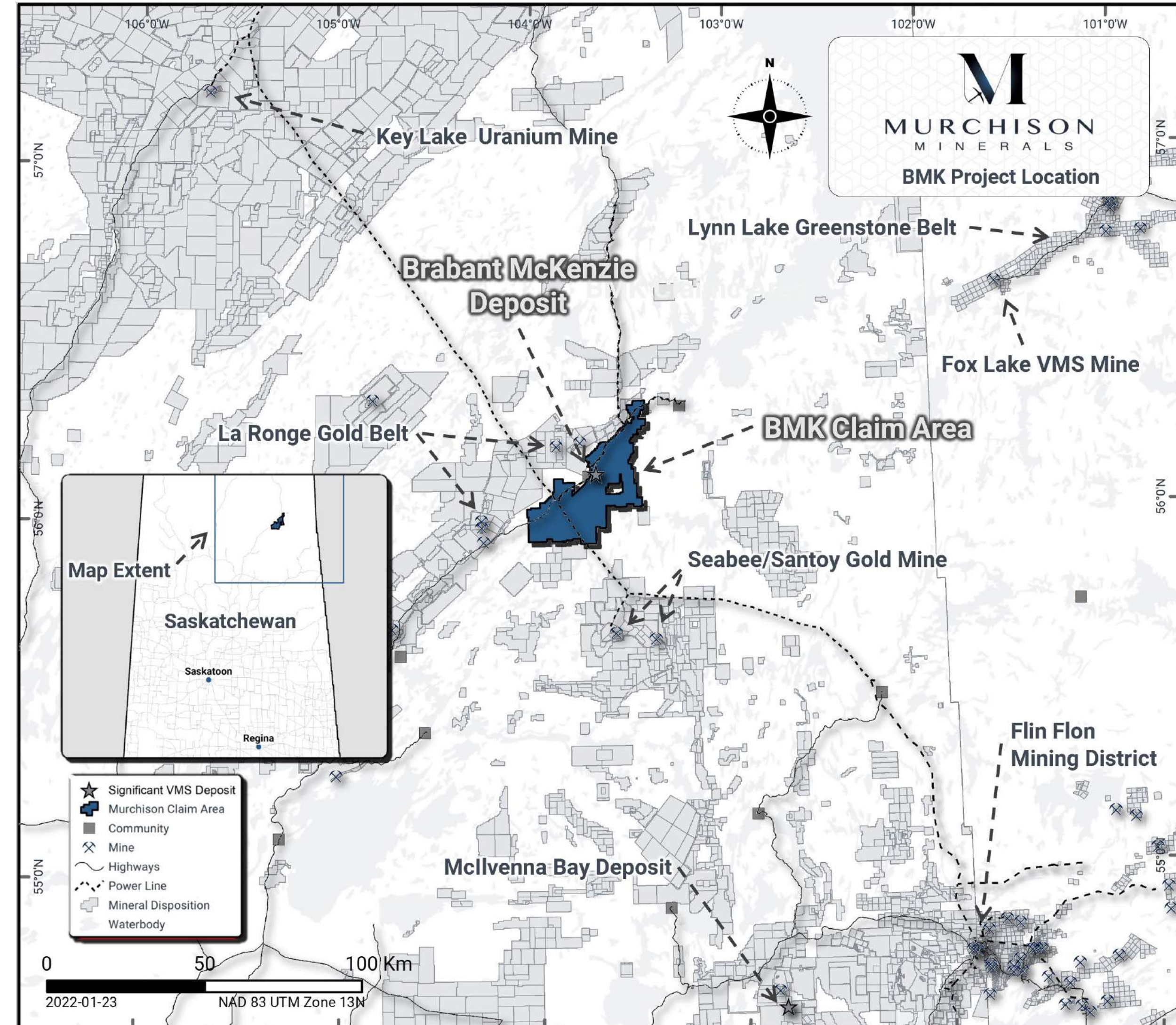
Ruttan VMS mine produced 55 million tonnes grading 1.23% Cu and 1.41% zinc and the Fox VMS mine produced 12 million tonnes grading 1.82% Cu and 1.78% Zn





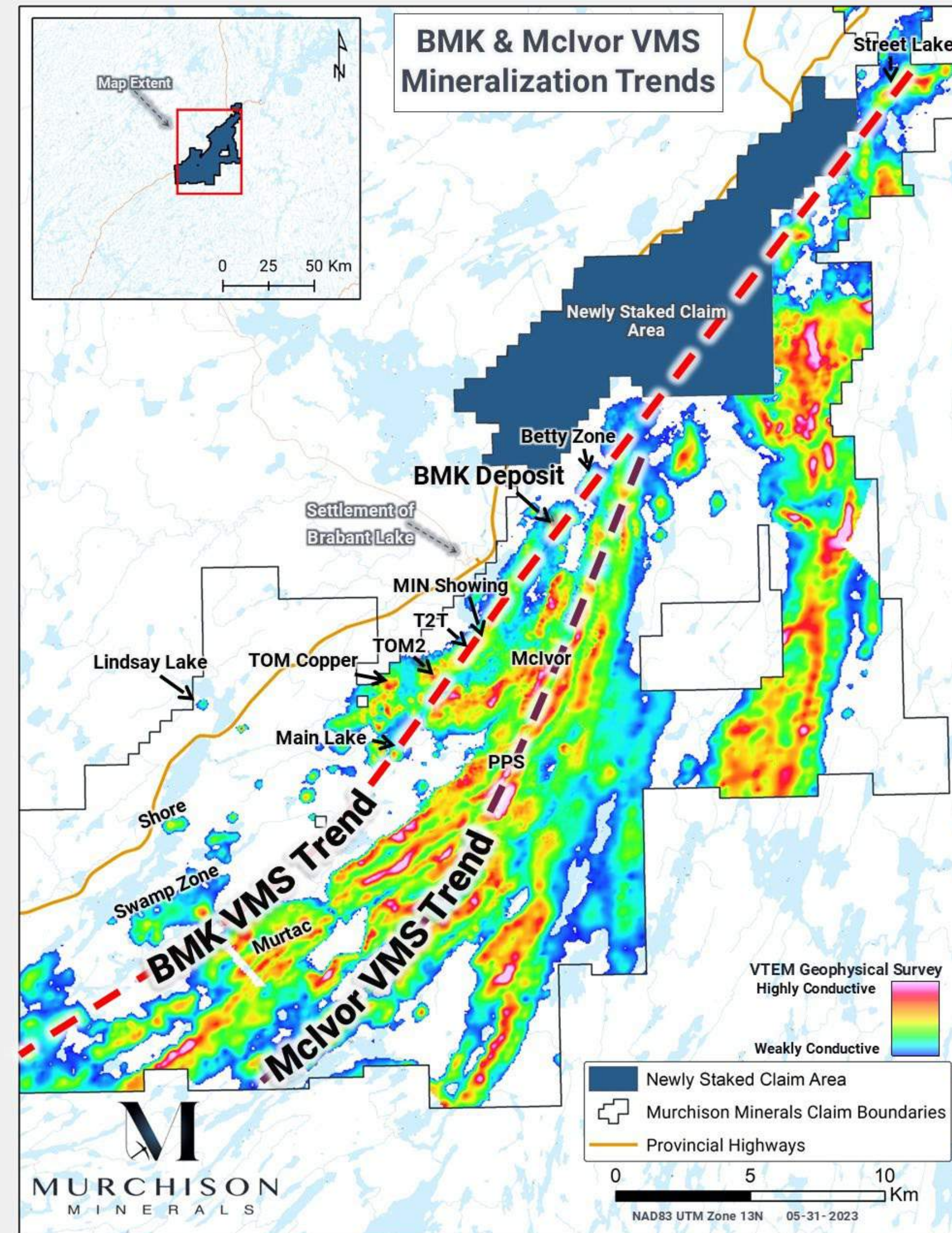
# BMK | 100% Owned | VMS Project

- Located in northeast Saskatchewan approximately 170 km north-east of La Ronge
- Excellent Infrastructure
- Maintained road on the property – Saskatchewan HWY 102
- Existing power-lines running through project site
- Project area lies within an active and historic mining jurisdiction
- Community of Brabant Lake adjacent to the project area
- Entire 664 km<sup>2</sup> land package covered with modern VTEM surveys; highly-prospective for VMS deposits, as well as gold.





# BMK | Project Geology



## 1. GEOLOGIC SETTING:

- Similar geological environment as Flin Flon, Lalor Lake, Lynn Lake, and Snow Lake Deposits
- Hosts the Brabant-McKenzie deposit which is a metamorphosed sedimentary volcanogenic massive sulphide deposit within the Kiseynew metasedimentary belt associated with the La Ronge metavolcanics

## 2. PROPERTY SCALE EXPLORATION:

- Claims cover extensive area of similar stratigraphy that hosts the BMK deposit
- VTEM surveys have highlighted numerous prospective conductors
- Project is large enough to host a VMS mining camp

## 3. UPSIDE POTENTIAL FOR MORE VMS:

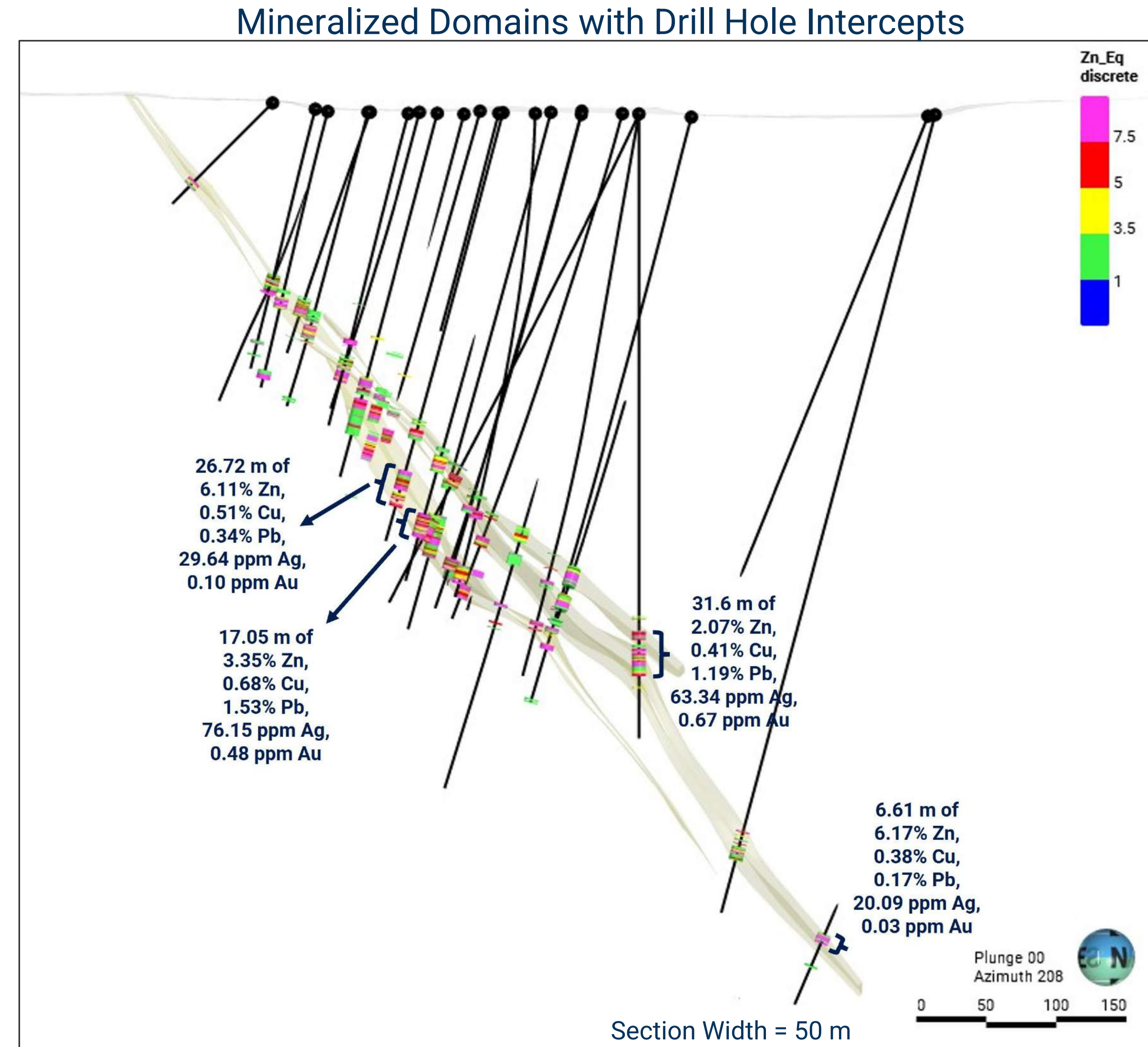
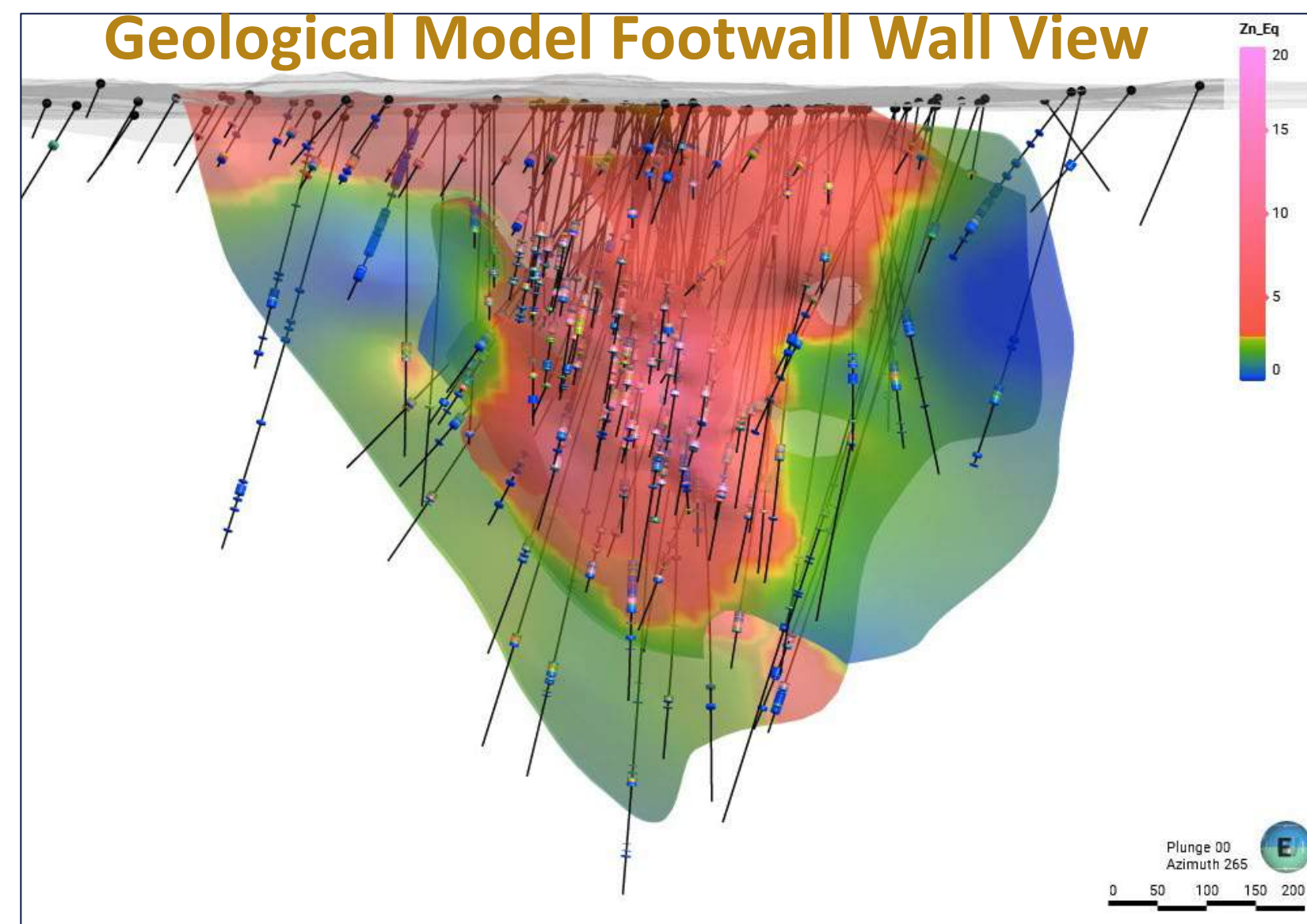
- VMS deposits occur in clusters and Brabant-McKenzie is the only known deposit in the area
- VMS mineralization and alteration has been intersected at the Betty and Main Lake targets



# BMK | Deposit Highlights

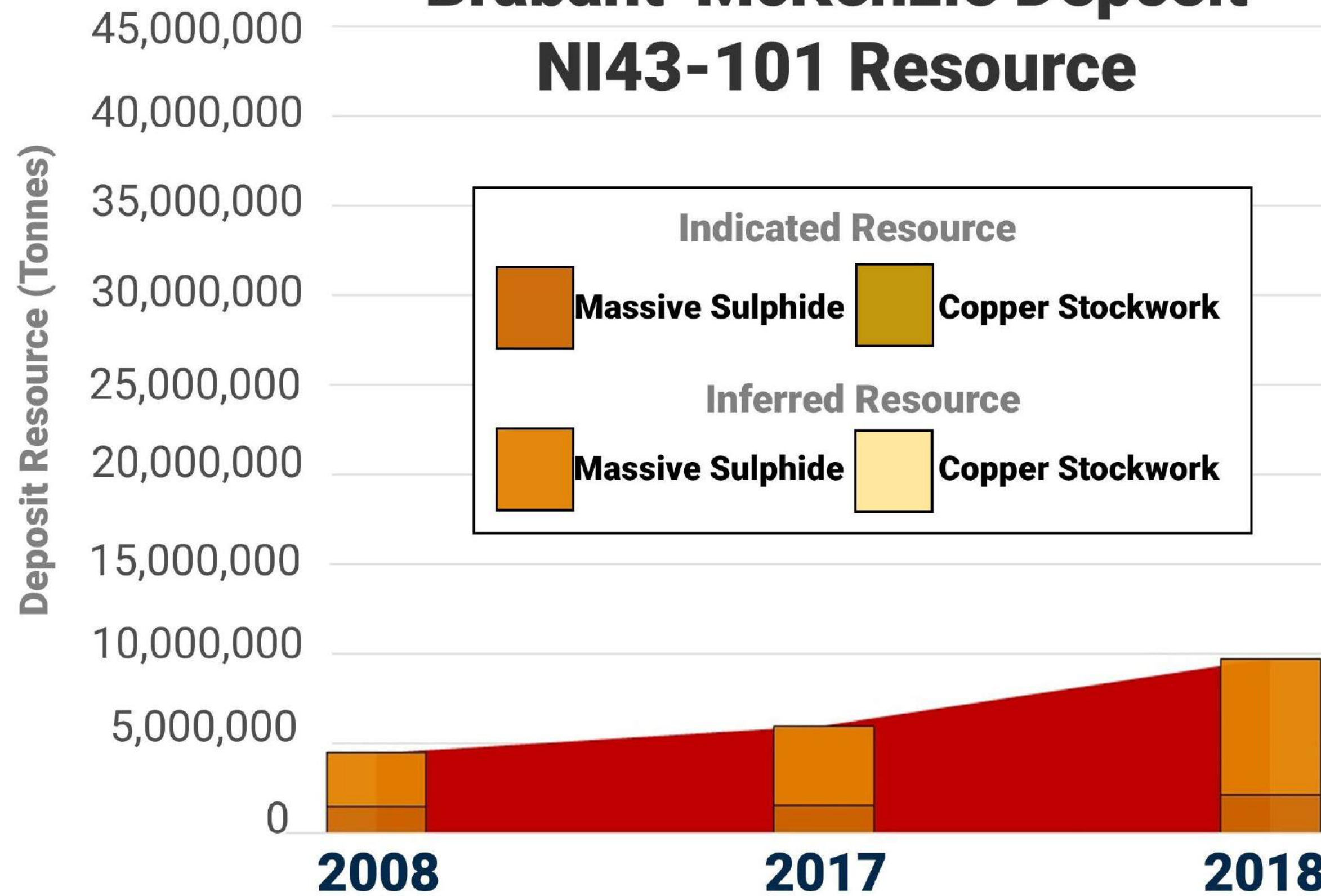
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- Outcrops at surface, dip averages -51 degrees NW
- Mineralization tentatively correlated over 1,100 m strike length
- 2 mineralized zones defined:
  - **Upper Mineralized Zone**
    - Defined over strike and dip length of 1 km at 50 m depth
    - Maximum width to 16 m, averages 5.3 m
  - **Lower Mineralized Zone**
    - Up to 25-30 m below upper zone
    - Defined over strike and dip length of 800 m from surface
    - Maximum width to 18 m, averaging 6.7 m

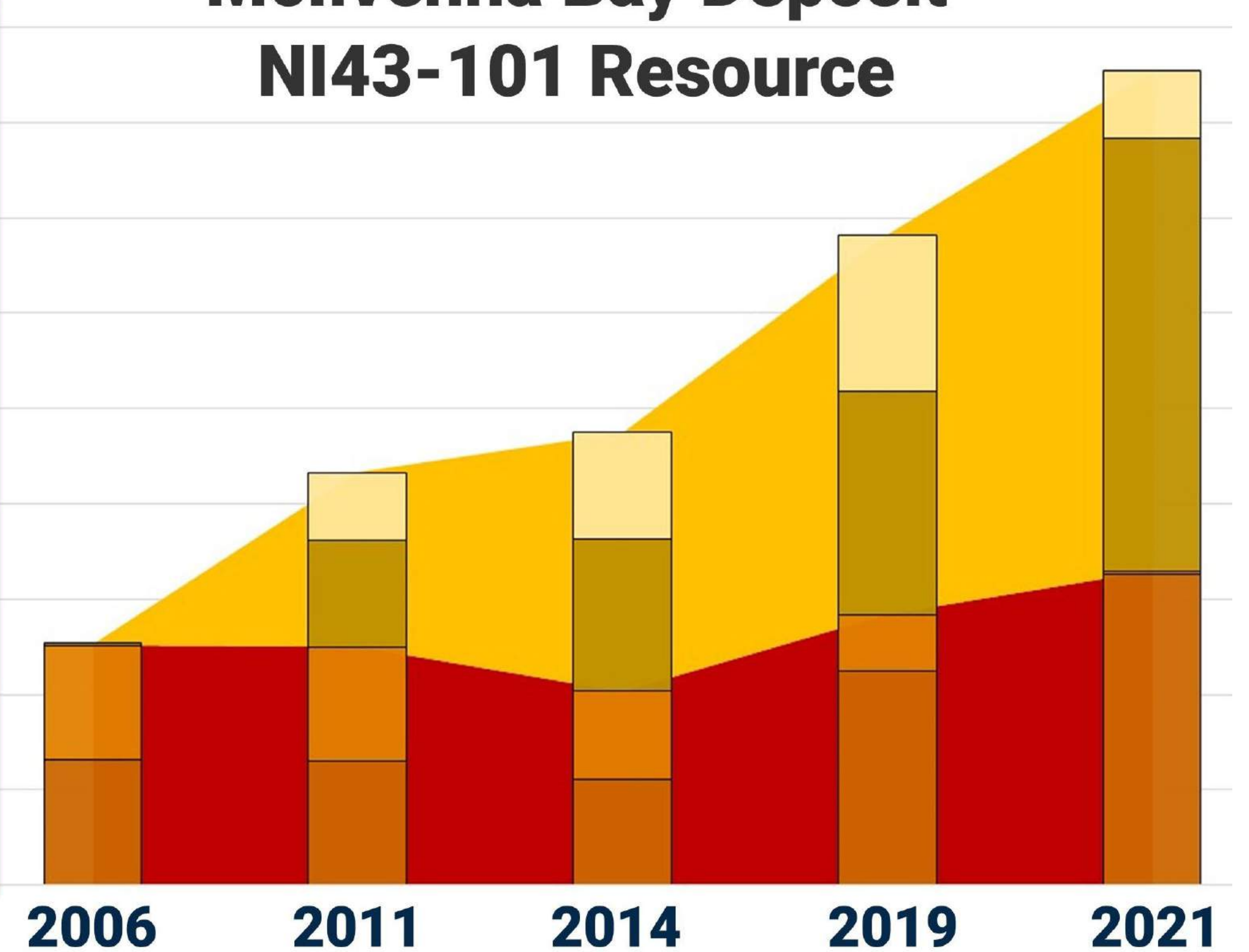




## Brabant-McKenzie Deposit NI43-101 Resource



## McIlvenna Bay Deposit NI43-101 Resource



\* Drill Meterage estimated based on respective NI43-101 but estimate may include regional exploration drill holes. Comparison does not factor in grade and uses difference cut off values for each respective historic NI43-101 and illustration is for comparative purposes only.

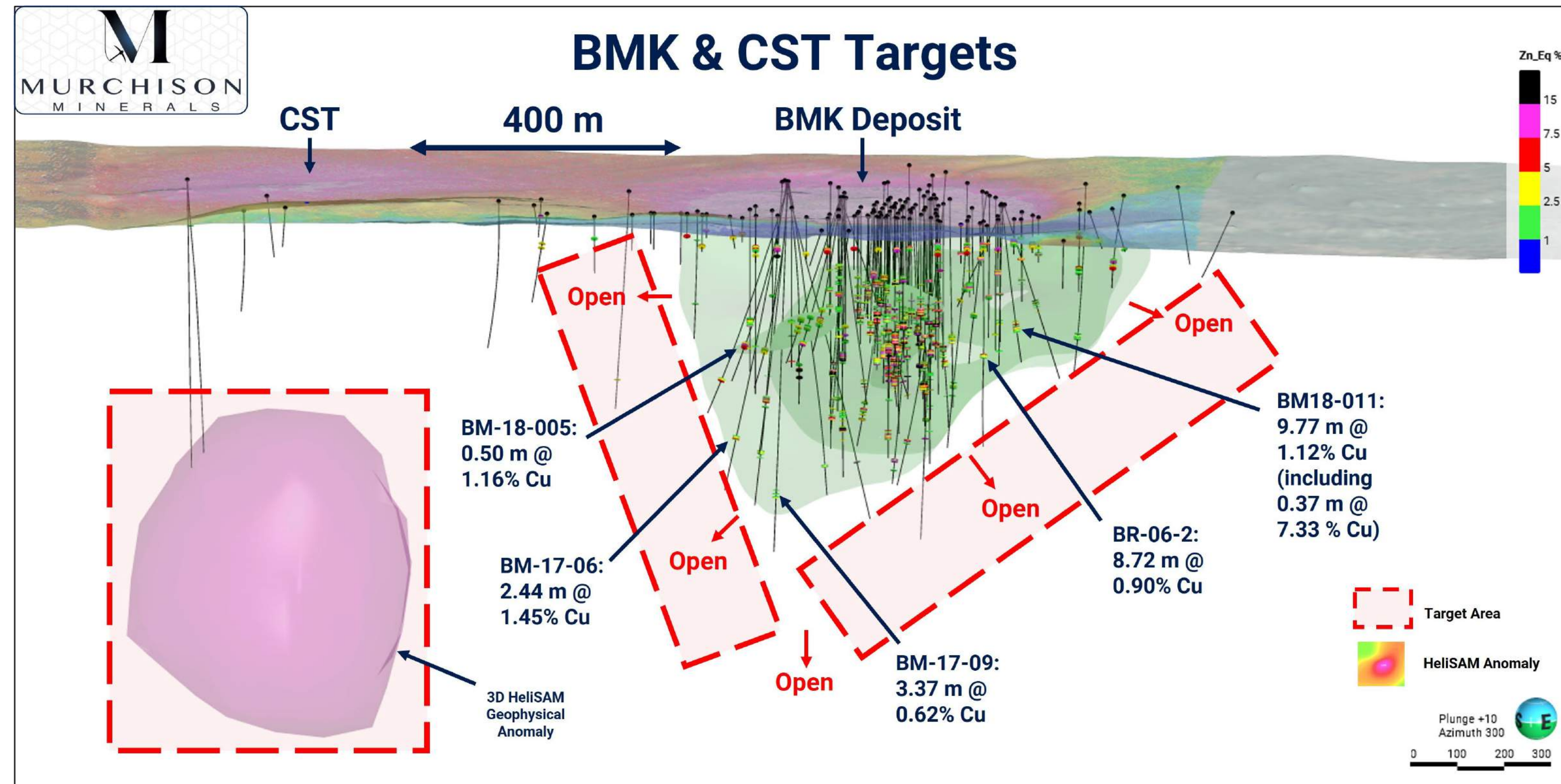
Category	Tonnes	Cu (%)	Zn (%)	Ag (g/t)	Pb (%)	Au (g/t)	Cu Eq. (%)	Zn Eq. (%)
Indicated	2,100,000	0.69	7.08	39.60	0.49	0.23	4.82	9.98
Inferred	7,600,000	0.57	4.46	18.42	0.19	0.10	3.03	6.29

The mineral resource estimate for the Brabant-McKenzie VMS Deposit was prepared by an independent qualified person ("QP") Finley Bakker, P. Geo., and has an effective date of September 4, 2018. The NI 43-101 Technical Report named Technical Report on the Resource Estimate Update for the Brabant-McKenzie Property, Brabant Lake, Saskatchewan is available on the Company's website and on SEDAR. The Mineral Resource of the Brabant-McKenzie VMS Deposit was estimated based on metal prices of USD \$1.20/lb Zn, \$2.50/lb Cu, \$1.00/lb Pb, \$16.00/Oz. Ag, and \$1,200/Oz. Au, and a USD exchange rate of \$1.25. A Net Smelter Return (NSR) cut-off of \$90/tonne and a 3.5% zinc equivalent based on above metal prices and an average recovery of 75% for all metals.



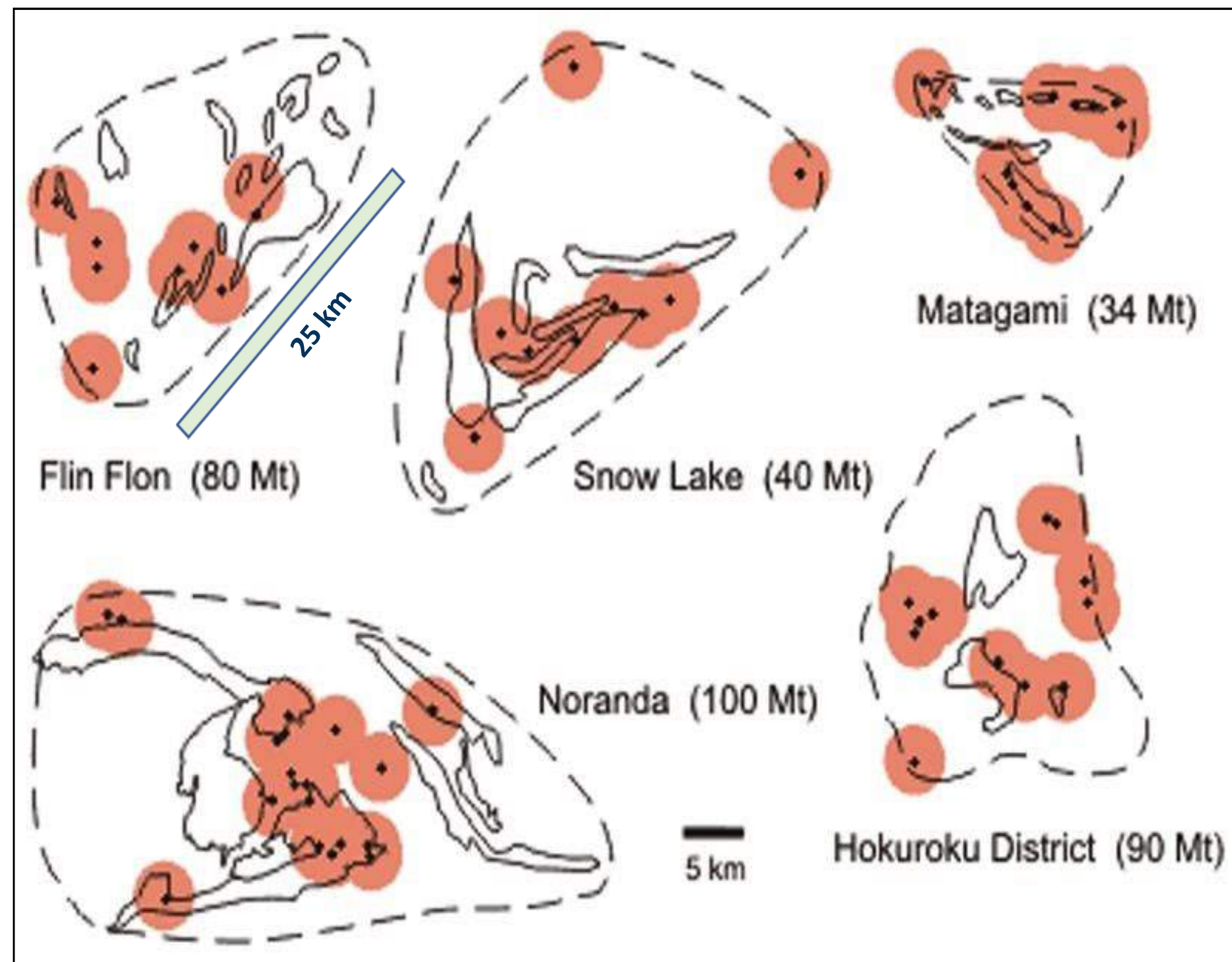
- Multiple intercepts on the edge of the resource with increased Cu to Zn ratio may vector to Cu stockwork zone
- 2017 Heli-SAM survey flown over the deposit highlights large geophysical anomaly 400 meters south of the deposit along strike
- Anomaly is at 600 meters depth and will be drill tested during 2024

BMK long section and Heli-SAM Geophysical Anomaly

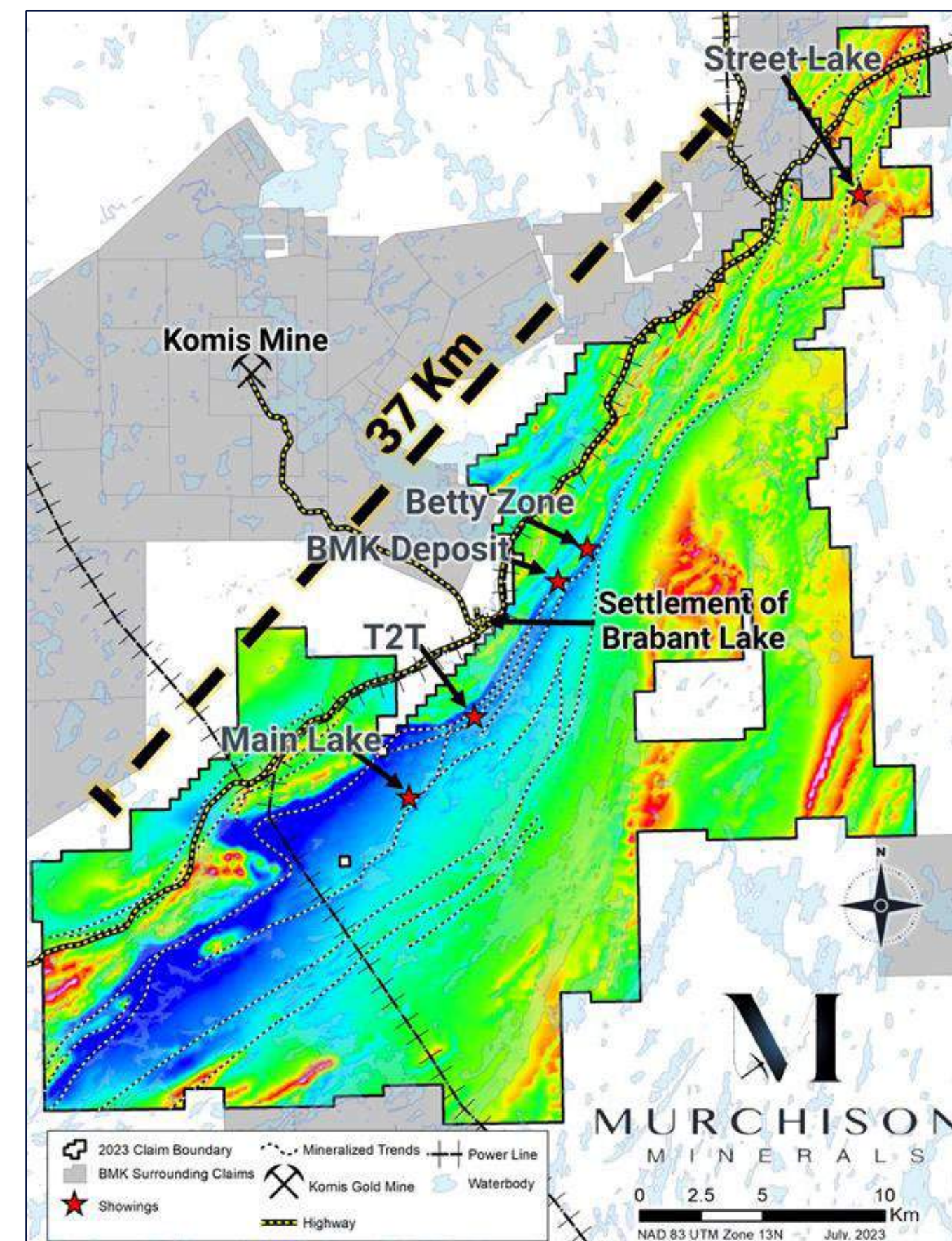




- VMS Deposits typically occur in clusters
- BMK Project has significant exploration potential as Brabant-McKenzie Deposit is only known deposit to date in the area
- Currently multiple prospective targets requiring follow-up work



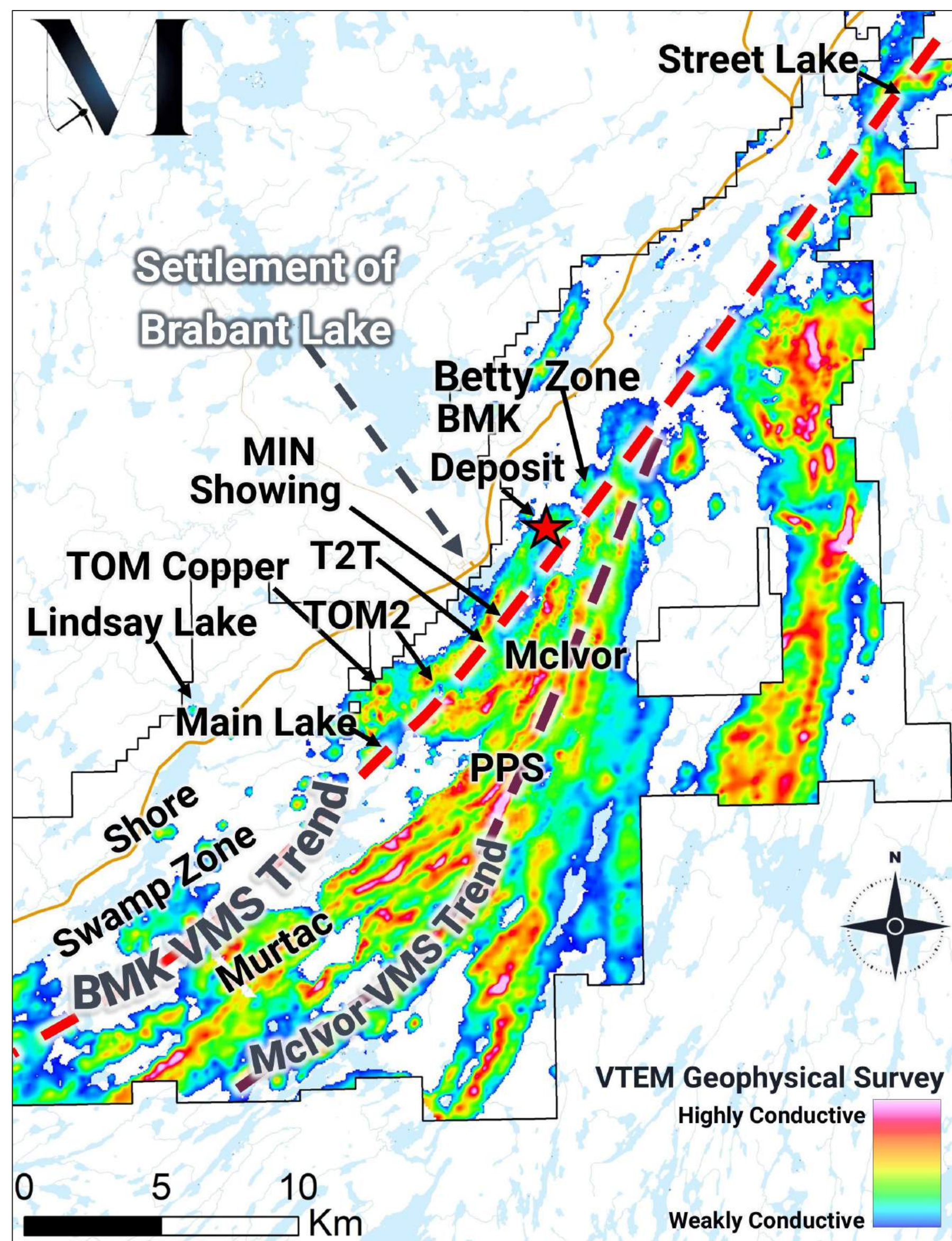
from Sangster (1980)



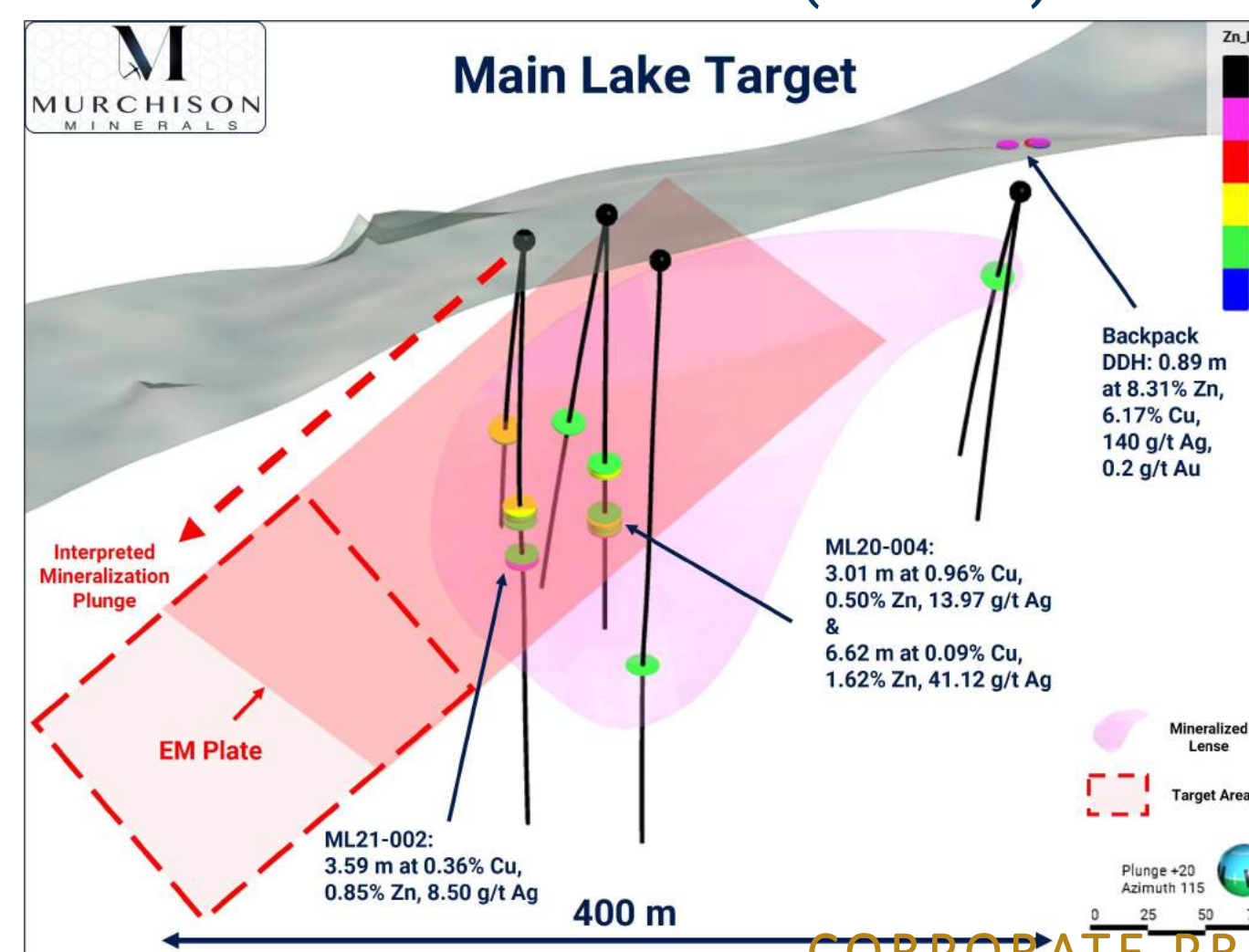


# BMK | Property Exploration

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- Claim Area covers 37km of prospective BMK Trend strike length
- Numerous sulphide facies iron formations present which represent distal components of VMS vents
- Numerous VMS showings present such as the Main Lake and Betty Targets
- Main Lake, ML-20-004 intersected 3.01 metres of 0.96% Cu, 0.50% Zn, and 13.97 g/t Ag in the upper interval and lower interval assayed 6.62 metres of 0.09% Cu, 1.62% Zn, and 41 g/t Ag (including 1.02 metres at 5.08% Zn)
- Betty Target, BZ21-002 intersected 1.33% Cu, 4.40% Zn and 12.95 g/t Ag from 280.73 to 281.65 metres (0.92 m)

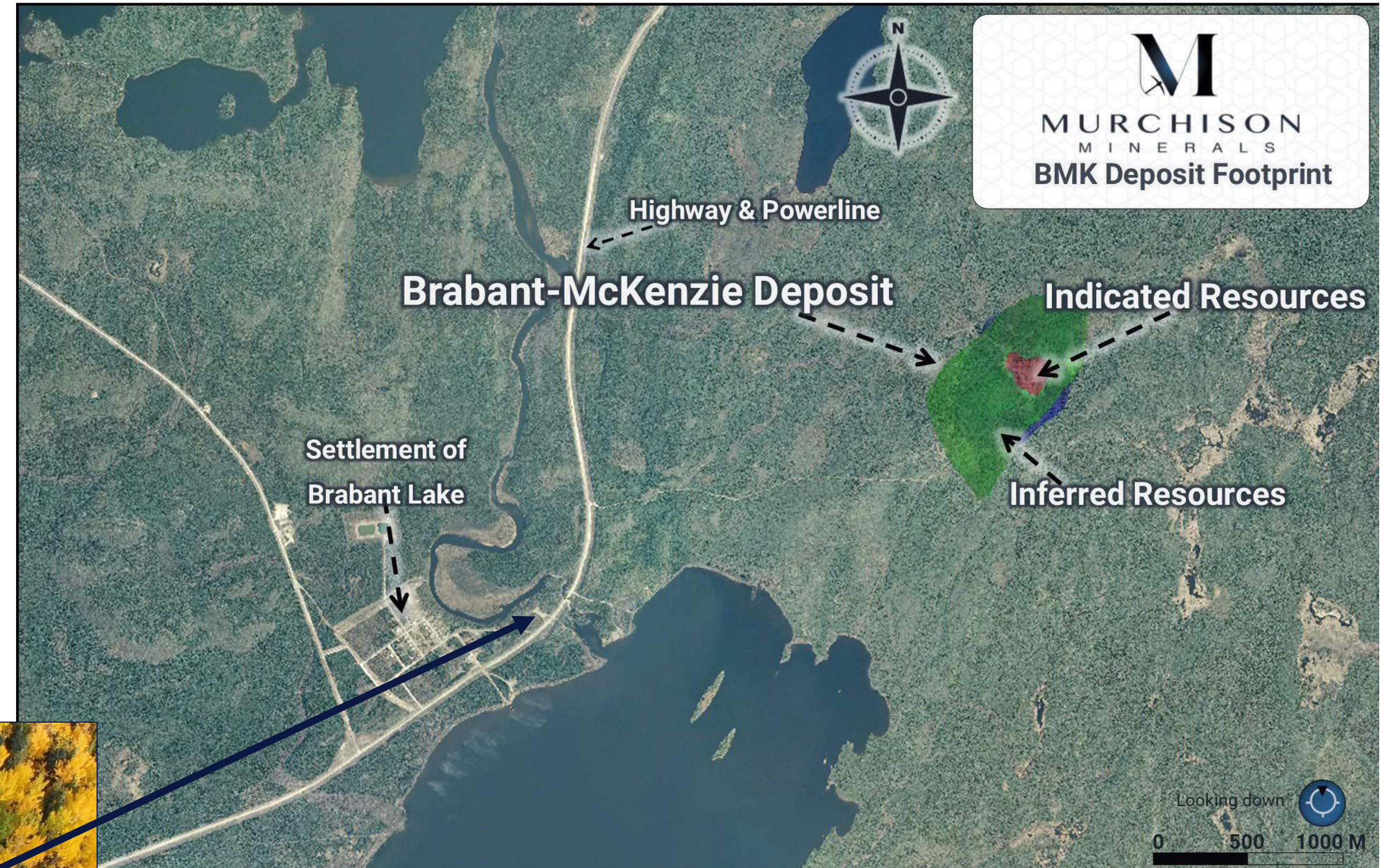




# BMK | Low-Cost Exploration

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- Year-round access and core facility
- No need for a work camp
- Drill permits currently in place
- Strong relationship with local First Nations
- \$206 average per meter drill cost (2017 to 2021)
- Average all in cost \$300 per meter (2017 to 2021)





# BMK | Brabant Lake Community

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- Project adjacent to Settlement of Brabant Lake
- Provides optimal base of operations and year-round access for field programs as Murchison owns 3 houses in the community
- Committed to hiring locally from the community for field programs, as well as hosting and assisting community events





# HPM | Quebec

## Ni-Cu-Co Project

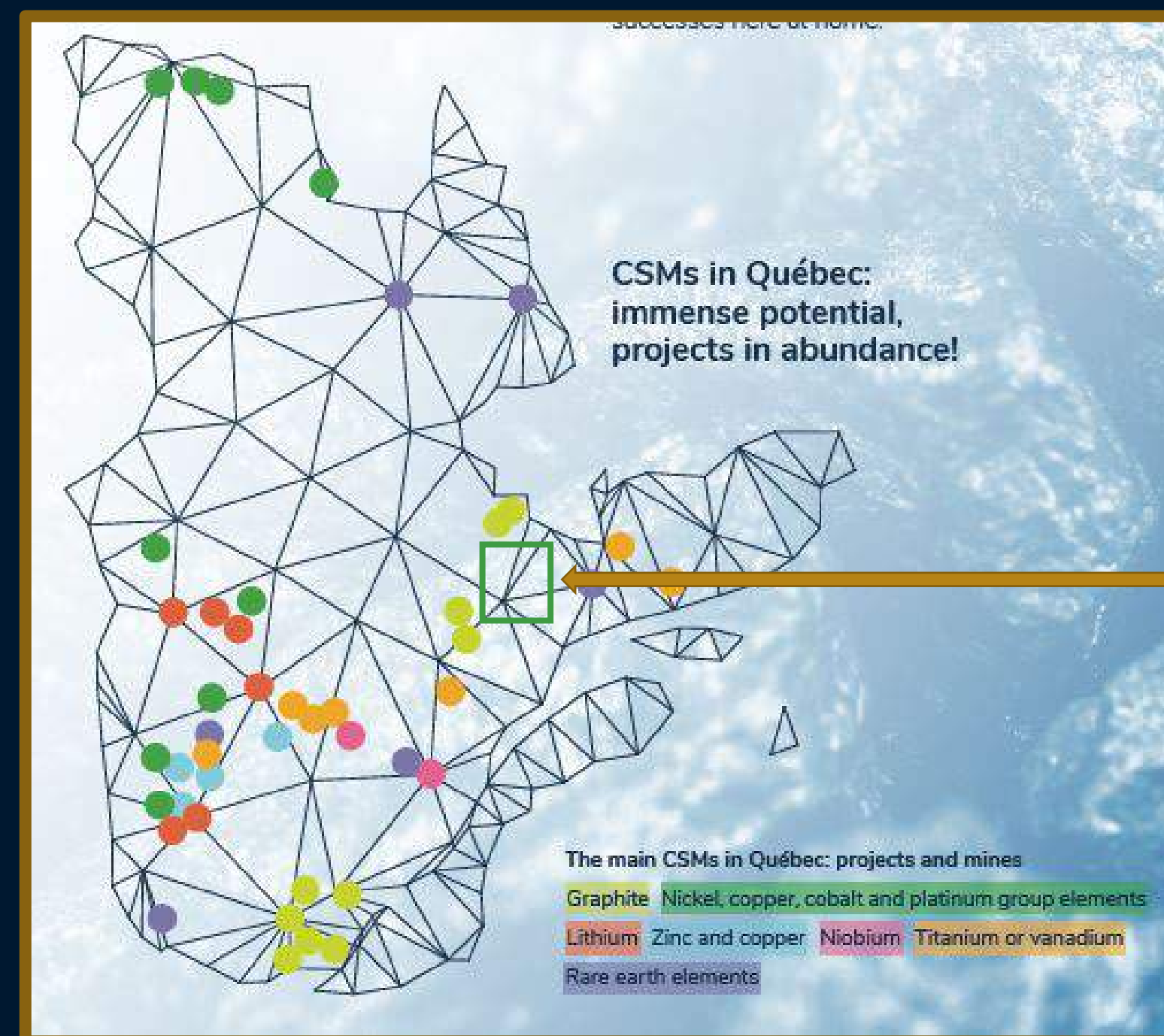
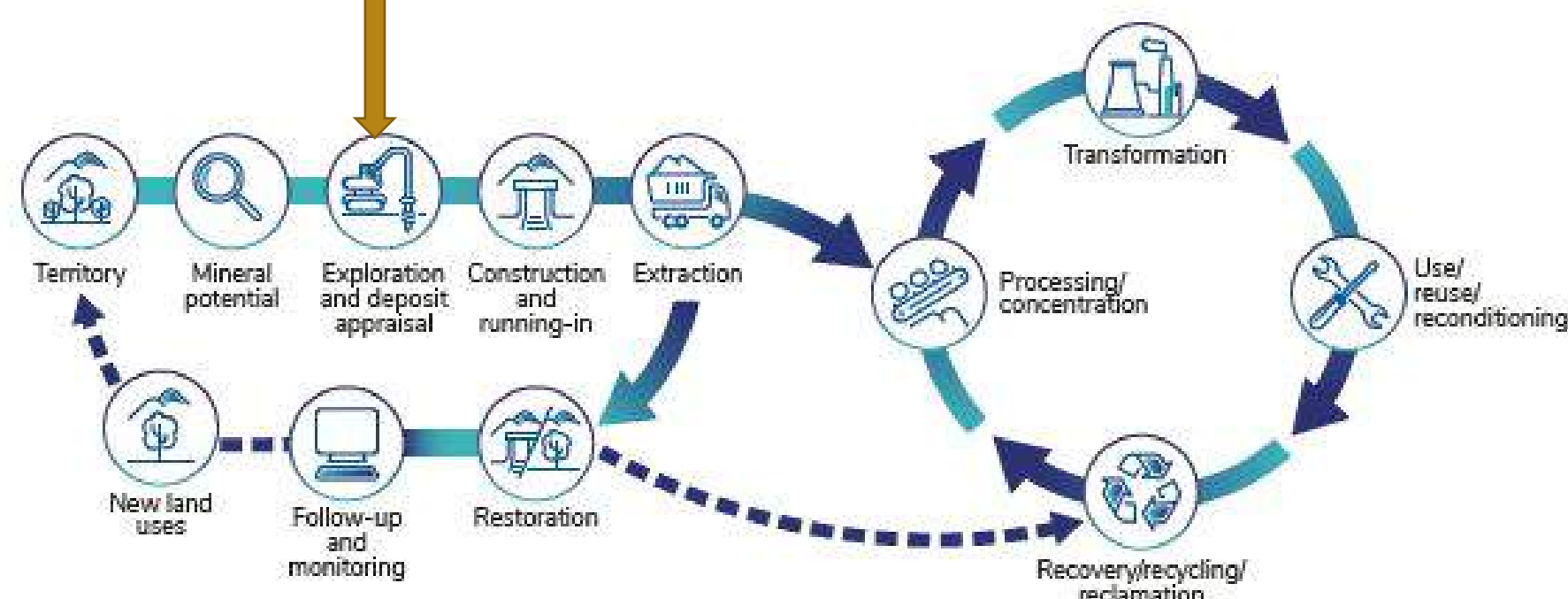




# Murchison | Critical Minerals

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- Murchison Minerals 100%-owned HPM Project in the North Shore Region is currently in the exploration stage of the Critical and Strategic Minerals cycle laid out by the Government of Quebec
- The projects aligns with Quebec's Critical Minerals and Battery Strategy
- The high-grade Barre de Fer Zone is the most advanced
- Mineralization outcrops at surface, has current dimensions of: strike length 370 m, depth 475 m and width of 200 m
- The zone remains open in all directions

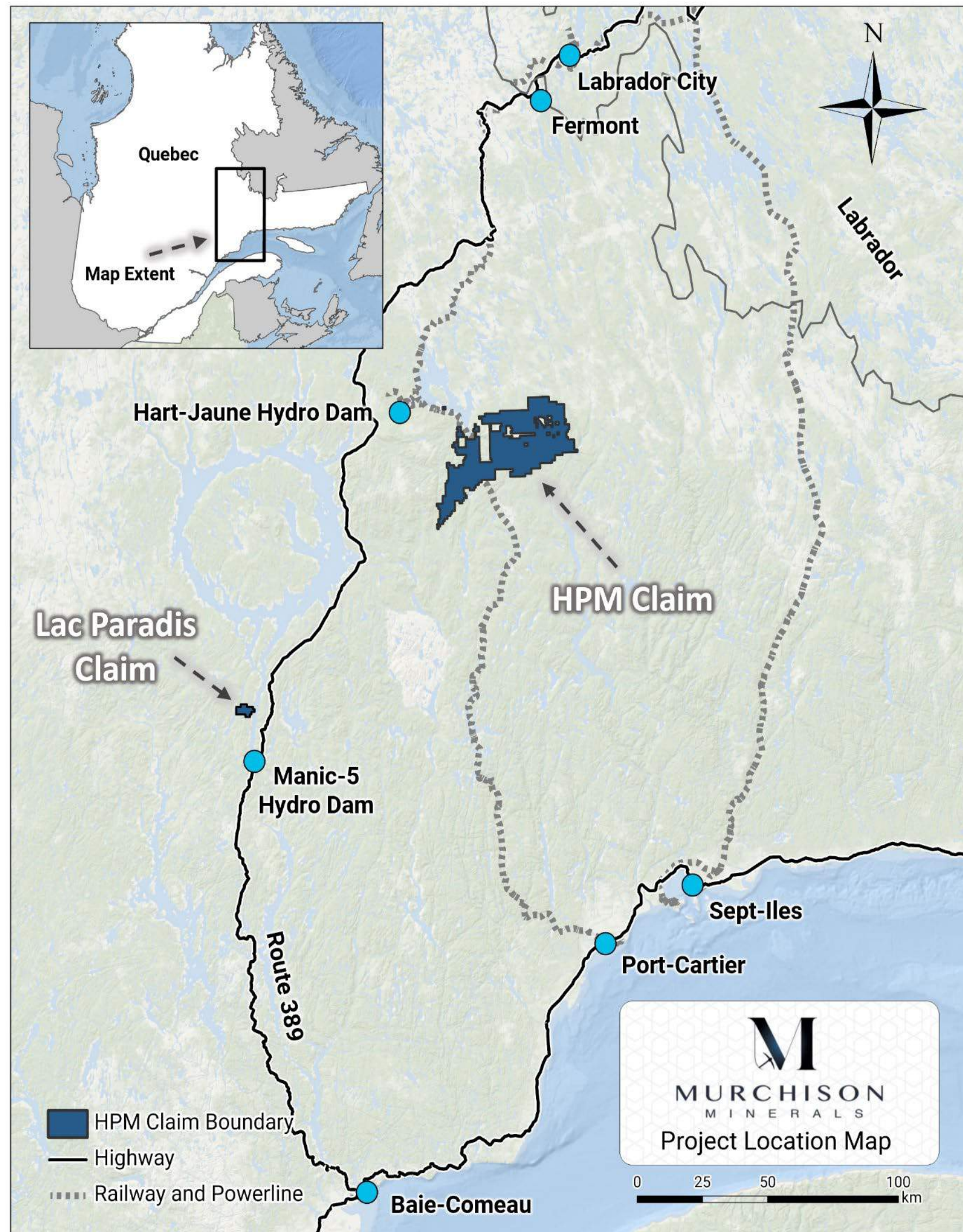


- HPM Project is 950.7 km<sup>2</sup> represents an emerging Nickel-Sulphide district
- Pre-existing advanced infrastructure within kilometres of the project area
- Available hydro-power capacity within kilometres of the HPM property, indicating any future production could be done with net-zero emissions
- In addition to Barre de Fer the Company has 12 de-risked nickel-bearing sulphide showings outcropping or subcropping on surface
- Furthermore, the Company has identified over 75 EM anomalies which are indicative of nickel-bearing sulphide mineralization



# HPM | 100% Owned | Ni-Cu-Co Project

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## Project Area

- Located in the Haut-Plateau de la Manicouagan region of Quebec, adjacent to the Manicouagan Impact Structure
- Excellent infrastructure with existing and maintained rail line running through the project site - direct access to two deep water ports
- Hart-Jaune Hydroelectric Station approximately 30 km from site
- Maintained road west of site - Quebec Route 389
- Project area adjacent to prolific iron mining jurisdiction
- Murchison's claims cover 950.7 km<sup>2</sup> of highly-prospective geology.
- Project area is currently accessed via helicopter, however, road access is currently being evaluated



## 1. HISTORY:

In 1999 Falconbridge discovers Ni-Cu-Co mineralization. Falconbridge's interest acquired by Pure Nickel who partnered with Murchison's predecessor in 2007, drilling the Barre de Fer deposit in 2008. Murchison acquires 100% interest in 2019

## 2. GEOLOGICAL SETTING:

Manicouagan Metamorphic Complex is comprised of extensive areas of mafic and ultramafic rock displaying repeated pulses of mafic magma that have intruded sulphide-bearing metasedimentary rocks.

## 3. PROPERTY SCALE EXPLORATION:

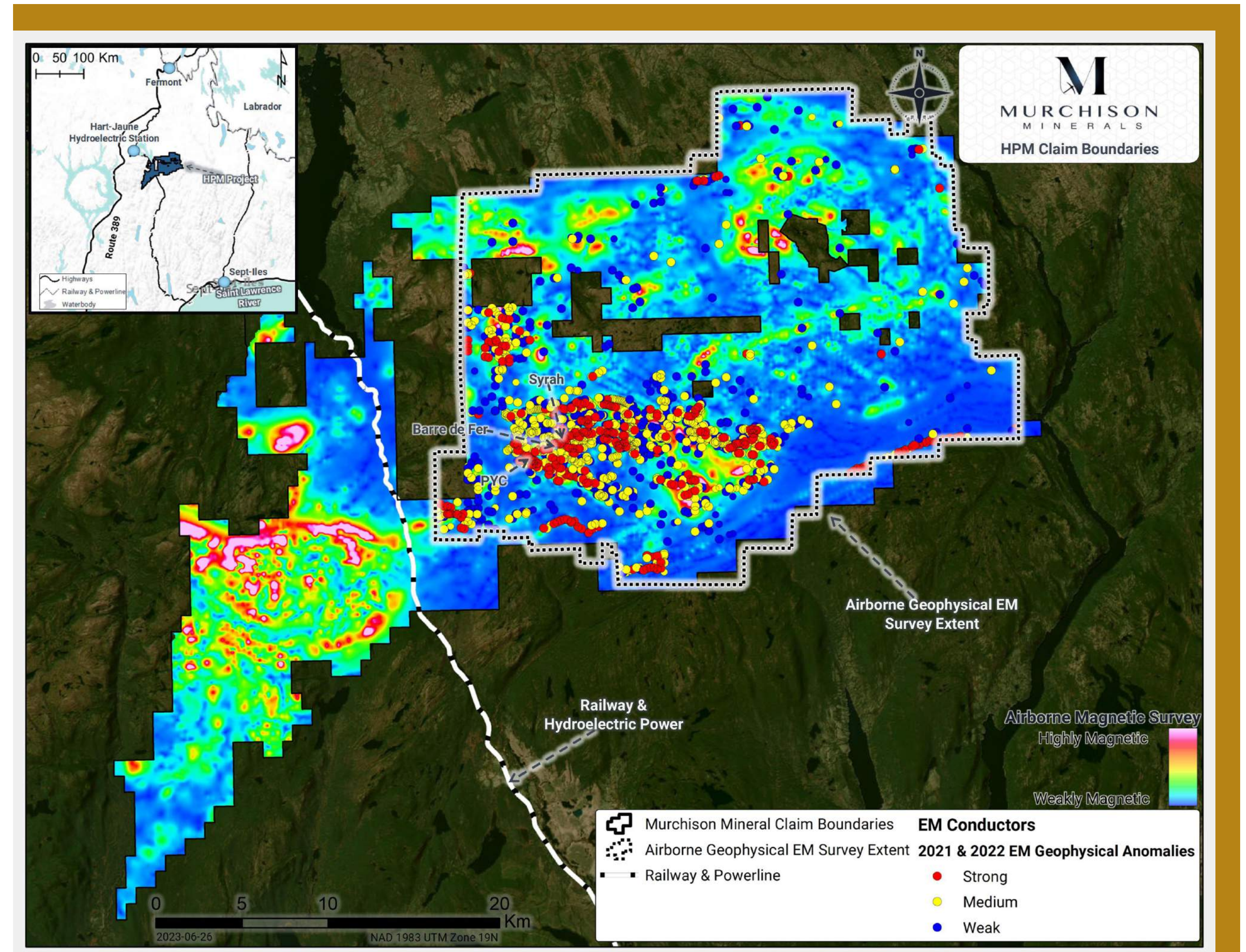
VTEM surveys completed in 2021 and 2022 have covered ~648 km<sup>2</sup> of the property extents, and have identified numerous EM anomalies.

## 4. PROSPECTIVITY:

Numerous Ni-Cu-Co occurrences identified by mineralized grab samples during previous prospecting field programs.

## 5. DRILLING:

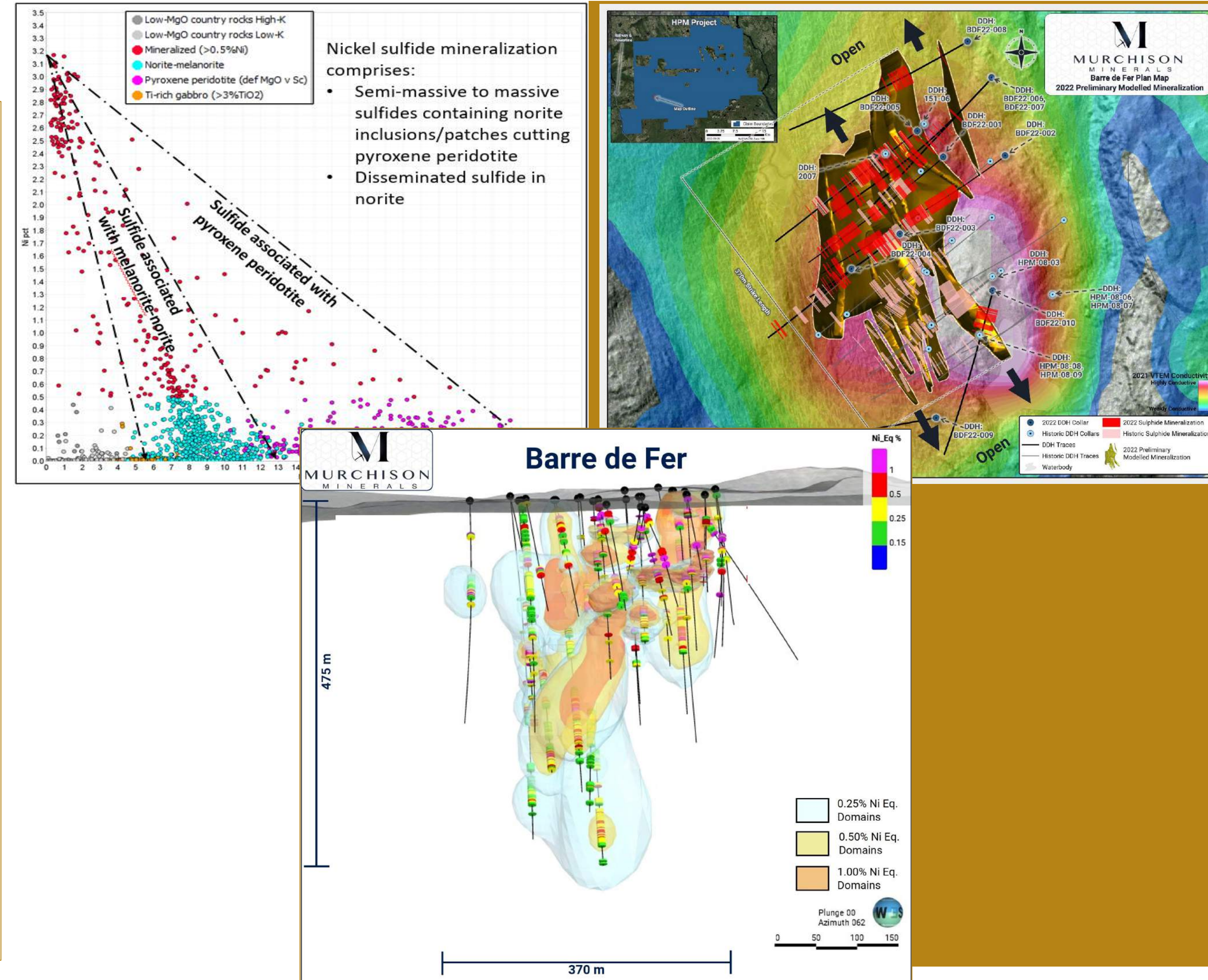
Drilling has proved that the conductive anomalies first identified by VTEM, and confirmed to be sulphide mineralization via prospecting, extend at depth.





## 2022 Diamond Drilling Barre de Fer

- The Barre de Fer Zone is currently defined with 35 diamond drillholes comprising 8,919 m
- During the 2022 Summer Exploration program the Company successfully expanded the footprint of BDF:
  - Mineralization at depth has now been extended down to 475 m, versus the preliminary model at 295 m
  - Along strike, the zone of mineralization has been extended from 315 m to 370 m
  - Mineralization was expanded along the width of the mineralized zone from 150 m to 200 m, with individual lenses now modelled up to 48 m in thickness, compared to the 28 m in the preliminary version
- The Company systematically collected whole rock geochemistry samples at BDF, leading to identification of the intrusive host rocks: Pyroxene Peridotite and Melanorite
- The prospective intrusive package, known as the “Barre de Fer Complex”, has now been mapped over ~2-4 km<sup>2</sup> footprint

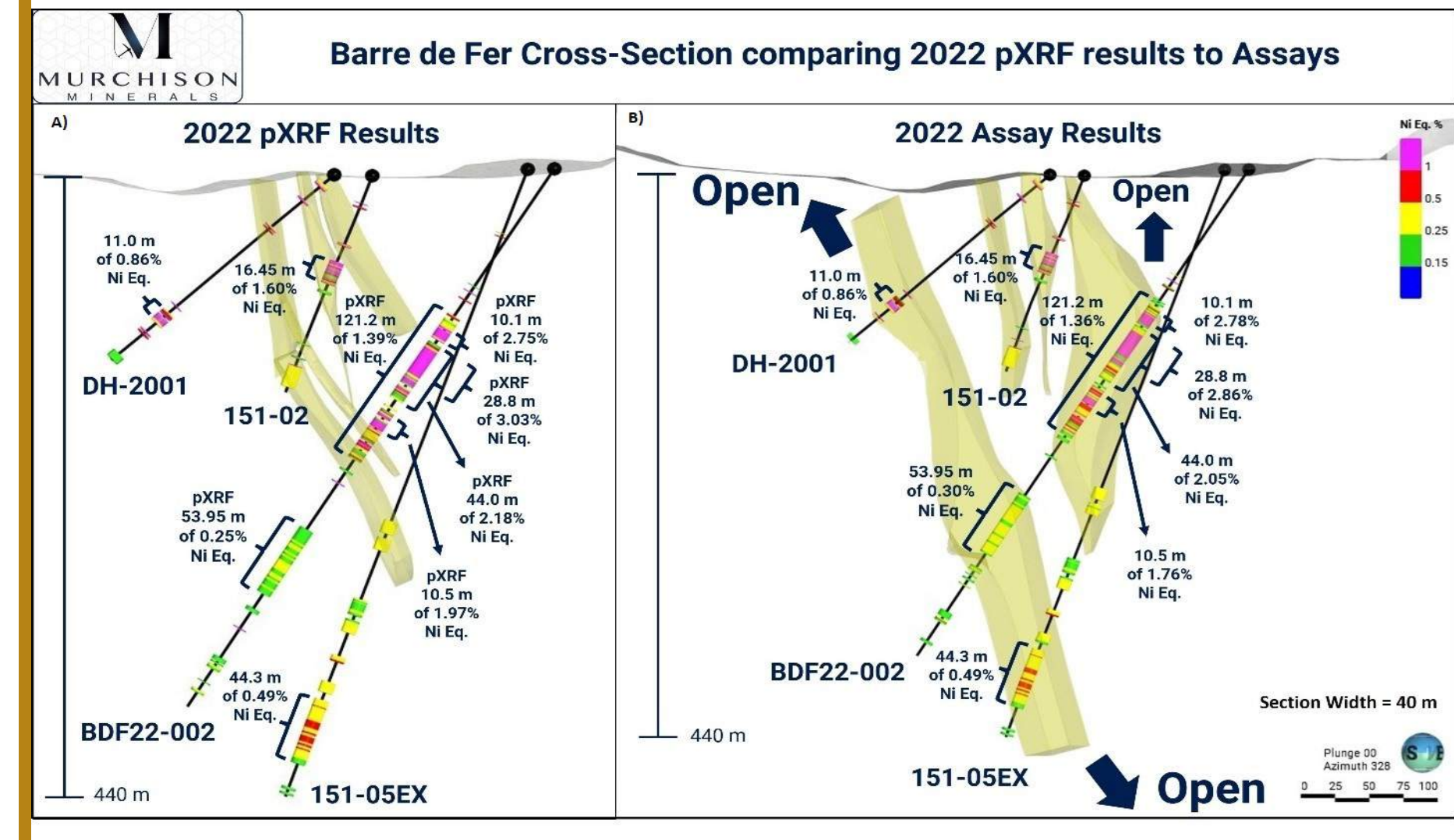
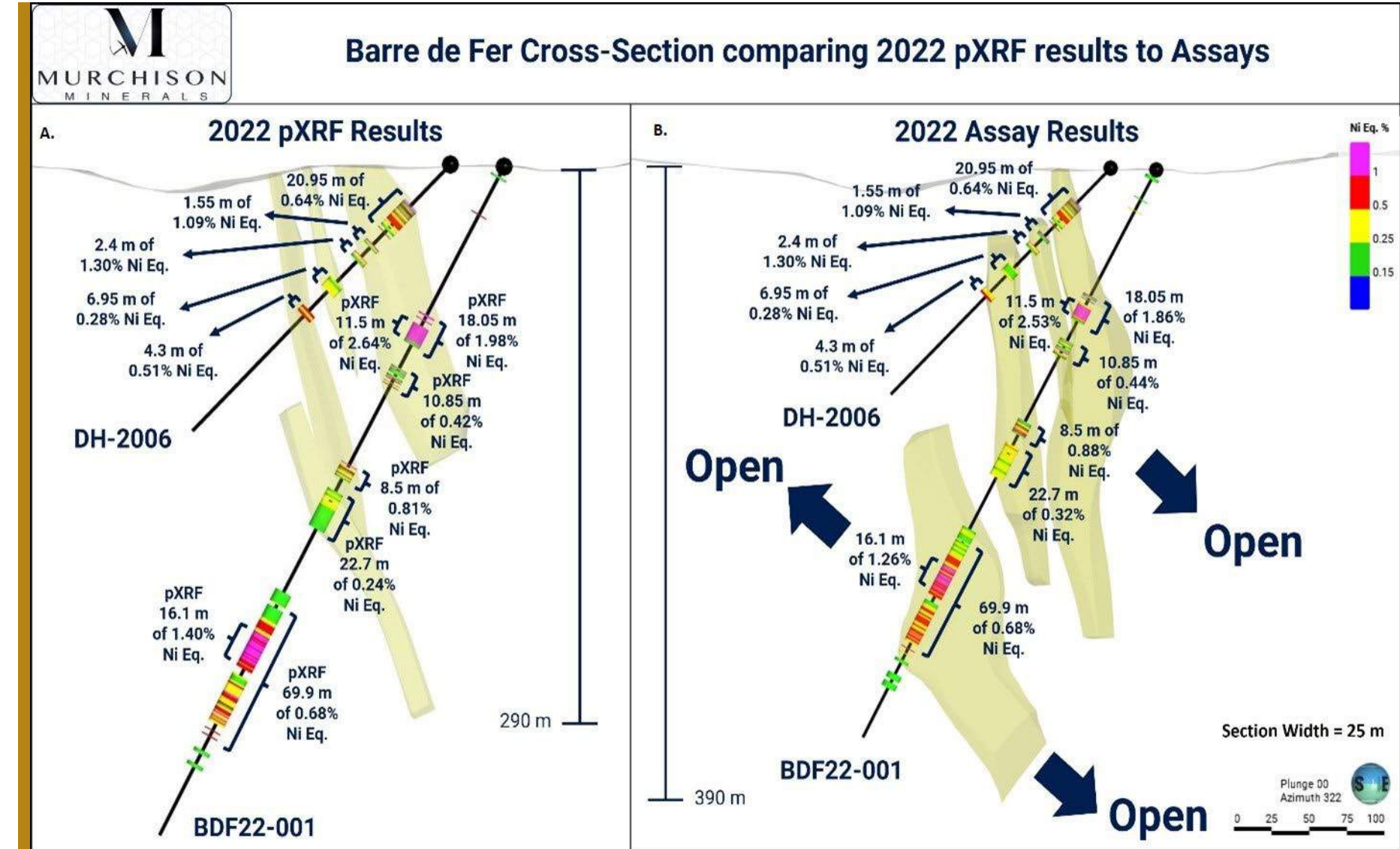




BDF Highlight Drillholes

Hole		From (m)	To (m)	Length* (m)	Ni %	Cu %	Co %	NiEq.%* *	CuEq. %**
BDF22-002		123.8	245	121.2	1.02	0.56	0.07	1.34	3.91
	Includes	134.1	144.2	10.1	2.08	1.17	0.14	2.74	7.99
	Includes	152	196	44	1.58	0.71	0.11	2.02	5.91
	Including	152	180.8	28.8	2.21	0.99	0.15	2.82	8.25
	Including	152.5	173.5	21	2.45	1.22	0.16	3.16	9.23
	Including	177.05	180.8	3.75	2.85	0.57	0.19	3.39	9.91
	Includes	207.5	218	10.5	1.3	0.8	0.09	1.74	5.08
BDF22-001		303.55	357.5	53.95	0.22	0.1	0.02	0.29	0.85
		89.95	108	18.05	1.44	0.44	0.1	1.77	5.18
	Includes	96.5	108	11.5	1.98	0.56	0.13	2.41	7.04
	Includes	97.8	105.9	8.1	2.69	0.69	0.18	3.25	9.51
		122	132.85	10.85	0.29	0.24	0.03	0.43	1.25
		180.5	189	8.5	0.62	0.37	0.05	0.84	2.45
		196.5	219.2	22.7	0.23	0.11	0.02	0.3	0.89
HPM-08-03		267	336.9	69.9	0.5	0.23	0.04	0.65	1.9
	Includes	283.4	299.5	16.1	0.92	0.43	0.07	1.19	3.49
		52.54	54.96	2.42	0.47	0.19	0.03	0.58	1.69
		68.72	126.6	57.88	1.38	0.72	0.07	1.76	5.14
HPM-08-04		136.07	139.42	3.35	0.33	0.14	0.02	0.41	1.2
		174.75	176.4	1.65	0.33	0.2	0.02	0.43	1.25
		340.62	341.35	0.73	0.15	0.1	0.02	0.21	0.61
		47.73	63.68	15.95	1.64	0.63	0.08	2.01	5.87
2002		123.87	131.38	7.51	0.89	0.34	0.05	1.09	3.18
		136.75	139.4	2.65	2.08	1.24	0.11	2.7	7.89
		144.17	154.92	10.75	1.05	0.63	0.06	1.37	3.99
		162.95	165.25	2.3	0.11	0.31	0.01	0.23	0.68
		24.2	24.6	0.4	0.94	0.52	0.07	1.24	3.62
		33.7	53.25	19.55	0.87	0.26	0.06	1.07	3.13
2002		98.9	112.15	13.25	0.57	0.42	0.05	0.8	2.33
		139.6	150.2	10.6	1.29	0.9	0.09	1.77	5.17
		153.1	165.7	12.6	0.35	0.16	0.03	0.46	1.34
		172.55	182.85	10.3	0.23	0.1	0.02	0.3	0.87

\* Reported as core length, true thickness is not known. \*\*Nickel Equivalent (NiEq) & Copper Equivalent (CuEq) values were calculated using the following USD metal prices from Jan 12, 2023: \$12.17/lb Nickel, \$4.17/lb Copper, and \$22.23/lb Cobalt. NiEq.% was calculated using  $Ni\% + ((Cu\ Price/Ni\ Price) * Cu\%) + ((Co\ Price/Ni\ Price) * Co\%)$ . CuEq.% was calculated using  $Cu\% + ((Ni\ Price/Cu\ Price) * Ni\%) + ((Co\ Price/Cu\ Price) * Co\%)$ . 100% percent recovery is assumed for equivalent calculations however it should be noted that 100% recovery is not to be expected for final recovery and true recovery may differ significantly from element to element. Please note that copper equivalent is in substitution for nickel equivalent and not in addition to.



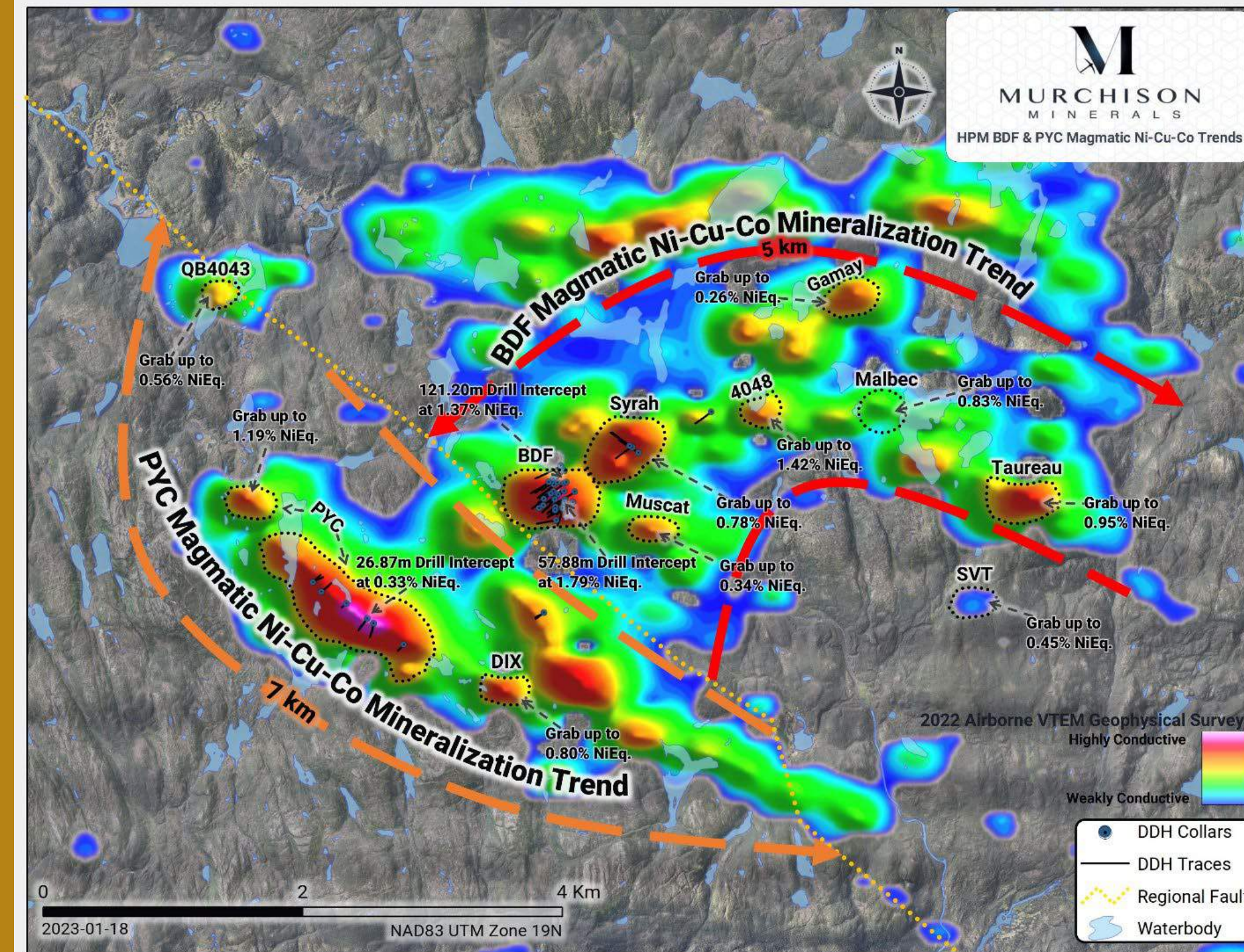


## HPM Regional Prospecting

- Prospecting defines de-risked targets for future testing with diamond drilling
- Beyond BDF, Syrah and PYC regional prospecting has discovered 10 additional nickel-sulphide outcropping and subcropping at surface including: Malbec, Dix, Taureau, Loup, and Original.
- Intersected semi-massive nickel-sulphide mineralization at the Taureau showing

## HPM Regional Geophysics

- VTEM defines EM anomalies which are indicative of nickel-bearing sulphide mineralization, identifying prospective areas for future prospecting
- Over 75 EM anomalies have been identified to date

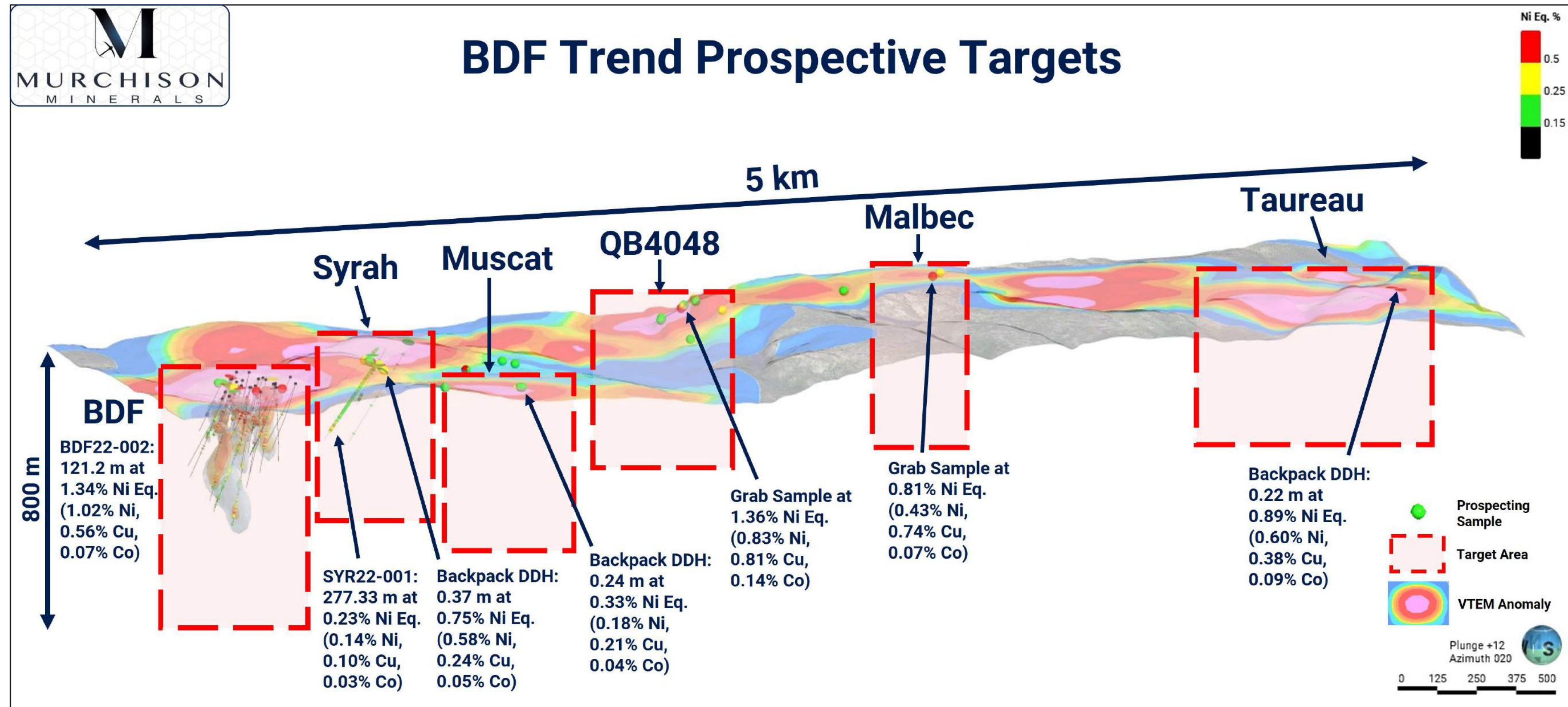


Closeup of mineralization in backpack core from the Taureau showing with semi-massive sulphide (pyrrhotite and chalcopyrite) mineralization.



Semi-massive sulphide mineralization observed in backpack drill core at Taureau showing.







# Executive & Board of Directors

## ● JEAN-CHARLES (JC) POTVIN, B.Sc. (Hon), MBA

### Executive Chairman

- Co-founder of the Company
- President and CEO of Pangea Goldfields Inc. acquired by Barrick Gold Corporation for CA\$204 million in 2000.
- Previously Director, Vice-President and top-ranked Equity Research Gold Analyst with Burns Fry (now BMO Nesbitt Burns).
- Currently a director of Azimut Exploration Inc., Golden Sun Resources and Murchison Minerals.

## ● TROY BOISJOLI, B.Sc. Geology

### President & CEO

- 15 years of cumulative exploration, project development, operations and regulatory experience.
- Formerly held positions of Vice President of Exploration and Community, and Vice President of Project Development and Operations with NexGen Energy

## ● ERIK H. MARTIN CPA, CMA

### Chief Financial Officer and Corporate Secretary

- 25 years of financial disclosure & management experience with publicly-listed resource companies.

## ● JOHN SHMYR, B.Sc. Geology (Honours)

### VP Exploration

- 10 years of experience in mineral exploration.
- Previously project geologist for BFR Copper & Gold, directly involved in the discovery of additional Cu-Zn mineralization at BFR's Flin Flon project.
- Registered member of the Professional Engineers and Geoscientists of Saskatchewan.
- Holds special authorization with the Ordre des Géologues du Québec.

## ● DENIS C. ARSENAULT, B.Comm.

### Independent Director

- Chair of the Audit Committee and member of the Compensation Committee.
- More than 40 years of professional experience with extensive board and governance committee experience.
- Held senior financial positions in a range of sectors including mining and resources.

## ● DONALD K. JOHNSON, B.Eng., MBA, O.C.

### Director

- Serves as a member of the Advisory Board of BMO Capital Markets.
- President of Burns Fry from 1984 to 1989.
- Served as Vice Chairman of BMO Nesbitt Burns until 2004.
- Formerly a Director of the Toronto Stock Exchange and Chairman of the Investment Dealers Association of Canada.
- Currently Emeritus Chairman of Goeasy Limited.
- Officer of the Order of Canada

## ● DAVID PYPER, B.Eng., MBA.

### Independent Director

- Chair of the Compensation Committee and member of the Audit Committee.
- Managing Partner at Blair Franklin Capital Partners Inc. of Toronto.
- David has more than 24 years of M&A and corporate finance experience in a wide variety of industries.

## ● JACQUELINE LEROUX, P.Eng.

### Independent Director

- 28 years of experience in the mining industry, specializing in environmental compliance.
- Director of Environment at Troilus Gold.
- Owner of JLeroux enr, a Quebec-based environmental consulting firm.

## ● Cory Belyk

### Independent Director

- 30 years of experience in the mining industry involved with companies at various stages from grassroots exploration to mining operations.
- Proven track record with successful discovery in the Athabasca Basin area.
- Served as a member of the board of several renowned mining firms including Cameco and CanAlaska Uranium.

## ● Dr. Peter C. Lightfoot

### Technical Advisor

- President and Chief Geologist of Lightfoot Geosciences
- Former Chief Geologist for Vale, Nickel: Base Metals Division
- Former Principal Geologist for Inco, Nickel Sulphide Global Porject Generation Program
- Adjunct Industry Professor in the Department of Earth Sciences at the University of Western Ontario

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C O R P O R A T E  
P R E S E N T A T I O N

## Corporate Address:

5063 North Service Road  
Burlington, ON L7L 5H6

## Contact Information:

Troy Boisjoli, President, CEO, & Director

Erik Martin, CFO

John Shmyr, Vice President Exploration

**Justin LaFosse, Director Corporate Development**

T: +1 416 565 4411

E: [Info@murchisonminerals.com](mailto:Info@murchisonminerals.com)

Thomas Do, CHF Capital Markets

T: +1 416 868 1079 x 232

E: [thomas@chfir.com](mailto:thomas@chfir.com)



TSXV: **MUR** OTCQB: **MURMF**



[Info@MurchisonsMinerals.com](mailto:Info@MurchisonsMinerals.com)



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